

This work attempts to investigate Muhammad Abduh's contributions to science and technology by systematically analyzing his extensive works on science, such as *Al-Islam wa al-Nasraniyyah Ma'a al-'Ilm wa'l-Madaniyyah* (Islam and Christianity in Relation to Science and Civilization), *Tafsir al-Manar* (The Manar Commentary), and other important works and prolific writings of Muhammad 'Abduh. The principal themes discussed in this work concentrated on Muhammad Abduh's philosophy of science, 'Abduh's contributions to modernity, and his scientific views in the Qur'an. It also discussed his influence on the modern Egypt and its important impact in the enlightening and reforming of modern Islam. It exponentially demonstrates that Abduh's primary contribution to science and technology is to Islamize its dynamic character and foundation based on modern Islamic worldview. This was significantly illustrated in his endeavor to present scientific commentary of the Qur'an which focused on the primacy of 'aql (intellect) and reason, unleashing his rational understanding of the text, and contributing to the revival of scientific thought, the freedom of ideas (taharrur) and dynamic religious worldview.

Abduh's Contributions to Science

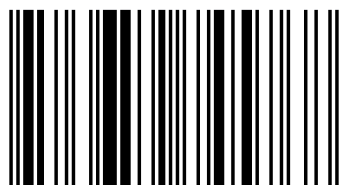


Muhammad Abduh's Contributions to Science and Technology

Ahmad Nabil Amir
Abdi Omar Shuriye
Ahmad Faris Ismail

Ahmad Nabil Amir holds an M.A. from the International Islamic University of Malaysia (IIUM) and a PhD from Universiti Malaya in Usuluddin. He has written extensively on the political thought of Islamic revivalists and is at present translating Muhammad Asad's magnum opus, *The Message of the Qur'an*, while pursuing his post-doctoral studies.

Amir, Omar Shuriye, Faris Ismail



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Abdi Omar Shuriye
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Preface

This work offers an extensive and detailed analysis of Muhammad ‘Abduh’s contributions to science and technology. It brings into focus his ideas on modernity, his dynamic philosophy and enormous contribution to religious reform, and his undisputed and authoritative scientific commentary of the Qur’an, *i.e. Tafsir Juz ‘Amma and Tafsir al-Manar (The Manar Commentary)*. The *Tafsir* reflects a scientific methodology of Qur’anic exegesis, in projecting and crafting an innovative and rational explanation of the text, which illustrates Abduh’s aspiration and passion for reform and a powerful scientific approach to the Qur’an.

The preparation of this work is closely monitored and supervised by two senior professors of the International Islamic University Malaysia. Associate Professor Dr. Abdi Omar Shuriye and Professor Dr. Ahmad Faris Ismail have consistently work with the present author from the very beginning of the project and substantively contributing their ideas and committing their critical views to reevaluate the ideas and restructure the drafts. Much of the ideas presented in this work have been thoroughly revised and amended by the learned professors, who have furnished and espoused sophisticated views and outline précised method to be employed in this work, especially the need to substantiate arguments with proof. This special interest and continuous support have been instrumental in the development and realization of this work in its final form.

This work form an important part of my research project at the Department of Science, Kulliyyah of Engineering, International Islamic University Malaysia to produce an original piece of research on Abduh’s contribution to science and technology. It is an important initiative and dynamic project of the Research Management Centre to encourage the drive of research among Post Doctoral Researcher and realized its aspiration and dream of becoming a renowned centre

for learning and research. Pursuing this dynamic vision, the University aspire to become a “leading international centre of educational excellence which seeks to restore the dynamic and progressive role of the Muslim Ummah in all branches of knowledge,” and endeavors to inspire “intellectual dynamism” and restore a “leading and progressive role of the Muslim Ummah in all branches of knowledge” and inculcate a worldview of “tawhid and the Islamic philosophy of the unity of knowledge as well as its concept of holistic education.”

The significant ideas of Muhammad Abduh’s scientific thought was backed by a concise and authoritative tafsir (*Tafsir Juz ‘Amma* and *al-Manar*) which offers fresh interpretation and reinterpretation of Islamic ideals and have consistently been the foundation of his chief ideas on science and technology. This work attempts to highlight this significant ideas and his achievement to revitalize Islamic science and technology, and his role to restore scientific spirit and revive technological practice, contributing to the flowering of ideas and unprecedented growth and a promising future for tomorrow’s science and technology.

Introduction

Introduction

This work aims to investigate Shaykh Muhammad Abduh's contribution to science and technology and its impact on the progress of scientific ideas and knowledge in contemporary Muslim society. It attempts to highlight significant contribution of Shaykh Muhammad Abduh to scientific revival in Muslim world and investigate his views and effort to reconcile religious authority with scientific discovery and harmonize the claim and proof of reason with textual revelation. This work offers an extensive and detailed analysis of Shaykh Muhammad Abduh's scientific worldviews, his contributions to Islamic modernism, his role in synthesizing science and religion, and his work on scientific exegesis which strategically aim to reinvigorate rational spirit and dismantling *taqlid* and removing current malaise and decadence of the ummah.

A critical study on Abduh's scientific views is still lacking in contemporary research, despite its tremendous important for the Muslims, to reap the benefit of Abduh's spiritual guidance and finding practical solution for the challenge facing them in this critical time. The expanding role of science and technology in modern world and the rivalry of superpower to making new invention in science warrant a critical study of such a topic. This work is an important undertaking and humble attempt to fulfill this task by providing substantial analysis of Abduh's contribution to science and technology and his effort to reclaim the renaissance of Muslim society and subsequent technological enterprise. Its primary concern is to highlight his views on science and his effort to provide Islamic response to scientific challenge from the west. Abduh's scientific works such as *Al-Islam wa'l-Nasraniyyah ma'al 'Ilm wa'l Madaniyyah (Islam*

and Christianity with Science and Civilization), *Tafsir al-Manar (The Manar Commentary)*, *Tafsir Juz 'Amma, Risalat al-Tawhid (The Theology of Unity)* and his translation of Jamal al-Din al-Afghani's *al-Radd 'ala al-Dahriyyah (ARefutation of the Materialists)* have provided the ground for critical research and analysis.

Abduh has made great effort to reconcile science and religion and harmonize revelation with reason. His focus is to reconstruct and reframe the western base of science and technology with rational principles and Islamic ideals. His drive to reconstruct Islamic science is clearly based on al-Qur'an and al-hadith (the Prophetic (saw) tradition)] which strongly encouraged the exploration and discovery of science and technology and the development of ideas and intellectual prowess.

This study is crucial to investigate Abduh's methodology and approach to science, his effort to reconstruct and reformulate western ideals into Islamic framework and his significant contribution to scientific advancement in modern world which led to unprecedented progress of science, and stimulates and rejuvenates scientific spirit and technological revival inspired by the the medieval achievement of Andalus.

The primary concern of this research is to analyze Muhammad Abduh's scientific ideas and thought, and his contribution to develop scientific weltanschauung, and his interest and concentration to pave the ground for scientific work and discovery to flourish. Abduh's case in this regard is unique, for he had special interest on scientific growth and ideas.

Abduh's scientific framework can be deciphered from his rational outlook and scientific works. The modern reform movement he inaugurated proposed scientific methodology to be implemented in every primary schools in Egypt. Abduh endeavors to propagate scientific

discovery and the use of intellect, the power to think, to reason and debunk sectarian clash and avoid blind imitation (*taqlid*) without any clear and substantive proof. Reason has primal important in his writings which he emphasized to encourage fundamental change in the Muslim world.

The scientific legacy he established and the import of his intellectual prowess had great ramification in our quest to reclaim the glory of ummatic spirit and in making phenomenal advance in scientific discovery and productive technology in the Muslim world.

Research Background

This project is designed to highlight the contribution of Shaykh Muhammad Abduh (1849-1905) to Islamic science and technology. The proposed title attempted to investigate and explore two dimensions and perspectives: the view of Shaykh Muhammad Abduh on science, and the outcome of his contribution to science and technology and its spiritual progress. Abduh's position towards science is clearly outlined in his prolific works such as *Al-Islam wa'l Nasraniyah Ma'al 'Ilm wa'l Madaniyah* [Islam and Christianity with Science and Civilization], *Tarikh al-Ustadh al-Imam al-Shaykh Muhammad 'Abduh* [Biography of Muhammad 'Abduh], *al-A'mal al-Kamilah* [Completed Works, edited by Muhammad Imara], *Tafsir Juz 'Amma* and *Tafsir al-Manar* [*al-Manar* Commentary]. He proposed unprecedented ideas of modernity and breaking the ground for scientific triumph and development in the world of Islam. To dismantle current stagnation and long decade of slumber and decadence in the Muslim world they must embraced modern science and technology and reformulate western ideas which do not cross the line of Islamic rule. The ideas of reform initiated by Abduh have been reverberated throughout the Islamic world. His

creative influences have contributed to the advancement of science and technology and recapture the glory and dynamic role of Islam at the global stage. The scientific views and rational theory of Muhammad Abduh and his groundbreaking philosophy of science will mark a new transition towards Islamization of science based on dynamic insight and understanding of scientific and technological construct of Islam. This work will contribute to uncover Abduh's monumental ideas on science and modernity and his struggle to mobilize religious reform and his aspiration towards scientific advancement and technological breakthrough in the Islamic world.

Objectives

The aim of this study is to give an expository account, comprehensive and detailed, of the scientific and modern ideas and teachings of Shaykh Muhammad Abduh. It attempts to survey certain major patterns of Abduh's scientific worldview and rational thought and his contribution to science and technology emphasizing on the need to master philosophy as the key for advancement in the Islamic world. The main objectives of this work are clearly espoused below:

1. To discover the modern interpretation of Islam by Shaykh Muhammad 'Abduh
2. To analyze the theory and philosophy of science as propounded by Shaykh Muhammad Abduh
3. To highlight his contribution in the development of science and technology and his reform initiative in Egyptian society
4. To understand scientific and rational method he developed and its impact in the Muslim world

5. To present his understanding of scientific and technological practice and its relevance to contemporary Islam
6. To compare the Islamic and western approach to science and technology

Research Questions

The basic questions which fundamentally related to this research are summarized below:

1. What is the primary goal of Abduh's modern reform movement?
2. What is his major contribution to science and technology?
3. What is the concrete approach he introduced towards scientific progress?
4. What is the main philosophical framework he developed in *Tafsir al-Manar*?
5. What is the influence and significant of his scientific worldview?
6. What is the modern aspiration he projected in the Muslim world?

Scope of Research

The scope of research is confined to investigate Abduh's contribution to science and technology and its advancement in the Muslim world. It only concern with his scientific ideas, without discussing his theory on Islamic doctrine, jurisprudence and legal premise. The study aims to present his scientific approach and to discover his contribution to scientific tradition and Muslim civilization and the practical solution he proposed to enable technological transfer in Muslim community. This work will substantially analyze Abduh's significant views on science and technology, emphasizing on his radical philosophy of reform and essential understanding of

Qur'anic text based on rational interpretation and highlighting its practical application and orientation in the Muslim world.

Research Framework

This study will consist of six chapters. Chapter one presents preliminary part of the research, which includes research framework and its preliminary design, with brief discussion on the methodology and relevancy of this research to contemporary need of such a study. Chapter two is an extensive study on early development and historical biography of Shaykh Muhammad Abduh, followed by a brief exposition of his works in Islamic sciences. It discussed the life and time of Muhammad Abduh and his encounter with his milieu, and some of his magnificent works, such as *'Urwat al-Wuthqa, Al-Islam wa'l-Nasraniyyah ma'al 'Ilm wa'l Madaniyah (Islam and Christianity with Science and Civilization)*, *Tafsir Juz 'Amma* dan *Tafsir al-Manar*. Chapter three consists of a detailed analysis and exposition of Muhammad Abduh's contributions to modernity and his modern perspective on scientific works and technology. It discussed Abduh's modern aspiration to espoused scientific ideals in Egyptian society.

Chapter four examines Abduh's significant ideas on science and technology and his philosophy of science and history. Chapter five explores Abduh's scientific views in the Qur'an and his rational and scientific method of commentary. The exposition of Abduh's scientific interpretation of the Qur'an is based on his works, *Tafsir Juz 'Amma* and *Tafsir al-Manar*. This chapter will analyze the impact of Abduh's scientific ideas and its significant influence in the renewal of scientific spirit. It will also provide critical insight on the structure and content of the *Tafsir* and the general theme of the text together with a survey of the linguistic, literary, historical

and doctrinal aspects of *al-Manar*. This will help in offering a clear presentation of the style of Abduh's thought, which is reflected in this works.

Critical evaluations of Abduh's scientific ideas are taken up in chapter six. In this chapter the emphasis is placed on his views and method of scientific study. It will involve extensive textual analysis, detail exposition of the explicit as well as implicit ideas that are couched in his scientific works which provide groundbreaking ideals for Islamizing science and technology. Finally the outcome of the study, together with some useful suggestions for further research, will be made in the conclusion.

Chapter six is the final conclusion and future recommendation to be pursued in future studies. The summation of ideas and organization of chapters are presented below:

Chapter 1: Introduction

Chapter 2: Muhammad 'Abduh's environment and works

Chapter 3: Muhammad 'Abduh's contributions to modernity

Chapter 4: The idea of science and technology: an exposition of Muhammad 'Abduh's worldview

Chapter 5: Muhammad 'Abduh's scientific views in the Qur'an

Chapter 6: Conclusion and future recommendations

Research Methods

This work is primarily based on library research which involves extensive reference to materials derived from primary and secondary sources. For data analysis the method to be employed is general descriptive and phenomenological approach. It will survey certain major patterns of Abduh's conceptual framework of science and technology using the deductive and inductive method with detailed analysis of his scientific ideas and thoughts.

Significance

This work is distinctly and significantly important that expose Abduh's lasting contribution to classical and modern scientific discovery. The significance part of this research is to discover universal values of science with detailed exposition of Abduh's rational ideas and the advancement of scientific movement in the life times of 'Abduh. The significance of Abduh's work is essentially fundamental for the improvement of Islamic science and the discovery of rational and scientific approach and the renaissance of science and technology in the Muslim world.

Literature Review

Works on Shaykh Muhammad Abduh since the mid of twentieth century have been enormously directed in documenting his biography and analyzing his reform initiative. The key theme of his scientific contribution still remains inadequately addressed. Thus, the emphasis of this study will focus on his contribution to science and technology and its impact in projecting

scientific revival in the Muslim world. The concentration of study is to analyze his scientific ideas and works, his contribution to modernity, his philosophy and contribution to science and technology and his rational and scientific explanation of the Qur'an.

1. Abduh's biography

Shaykh Muhammad Rashid Rida's profound work, *Tarikh al-Ustadh al-Imam al-Shaykh Muhammad 'Abduh (Biography of Muhammad Abduh)* in two large volumes provided an analytical and comprehensive survey of Muhammad Abduh's definitive ideas and key works, letters, sermons and writings. It is the greatest biography of 'Abduh printed in two volumes with inclusive snapshot of his speeches, correspondences, letters, including memoirs and articles by Sayyid Jamal al-din al-Afghani, his principal teacher and master and high regard lavished at him by his companions and contemporaries, largely gathered by Rida in the beginning of 20th century, from many sources and newspapers, including *al-Jara'id al-Yaumiyyah al-Misriyyah*, *al-Jara'id al-Tunisiyyah*, *al-Jara'id al-Suriyyah*, and some other newspapers and journals from America, France and Germany.

This work creating a comprehensive outlook of life and times of Abduh, passionately compiled from his principal writings in journals like *Al-'Urath al-Wuthqa* and *al-Manar*. *Tarikh* has been an excellent and tremendous resource that supports our research on Abduh's philosophy of science and technology and current landscape of political Islam. An important work produced by Charles C. Adams's, *Islam and Modernism in Egypt: A Study of the Modern Reform Movement Inaugurated by Muhammad Abduh*, also provided comprehensive survey on 'Abduh's historical ideas and intellectual background and remain single most authoritative work on Imam

Muhammad Abduh to date. This work has been highly acclaimed as the ‘the best work’ on Abduh’s biography and regarded as the ‘principal studies on Abduh in English’.

It outlined the history of reform movement beginning from al-Sayyid Jamal al-Din al-Afghani, and its impact on ‘Abduh’s methodology. Adams presents comprehensive survey of ‘Abduh’s biography and doctrines and its influence on later and younger Egyptian modernists such as Muhammad Rashid Rida and ‘Ali ‘Abd al-Raziq. This biography is our primary reference in pursuing this research work. It is an indispensable piece for a proper account of the lifetime of the founder of modern Egypt and the exposition of his scientific ideas and endeavors. It serves as an intellectual biography of Muhammad Abduh, outlining his legacy and impact on subsequent political movement and religious thought in Islam with extensive coverage on Abduh’s attitude regarding reason and science, and presenting and discussing the principle doctrines he propounded in *Risalah al-Tawhid* and *Al-Islam wa al-Nasraniyyah* concerning God and His knowledge, the speculation of God’s power and goodness, interpretation of prophecy, conflict between reason and revelation, and the relation between religion and science.

Compared to Rashid Rida’s *Tarikh*, Charles Adams biography is much focus and concentrates on his movement with penetrating insight and deep analysis on Abduh’s reform initiative and its impact on muslim modernist. Recent contribution by Mark Sedgwick’s “*Muhammad Abduh*” provides concise introduction to Muhammad Abduh’s life and time with brief discussion on his early life at Tanta, his political experience and encounter with Khedive, his revolutionary movement with Afghani, and his career as editor and his legacy and works like *Urwat al-Wuthqa* and *Risalah al-Tawhid*. This book is part of series of publications on makers of the Muslim world by oneworld publications (2010), which aims to analyze briefly his struggle and contribution to present new paradigm and unique perspective of Islam.

The book aims for general audiences and readers beginning to study Islamic history, thus keeping footnotes to a minimum “rather than to identify the original sources and scholarly references on which the statements are based” (R. Stephen Humphreys, 2006: x). Muhammad Imara’s *A‘mal al-Kamila* [complete work] provides excellent and authoritative reference of the range of Muhammad Abduh’s collected works skillfully edited by ‘Imara from Abduh’s key works such as *al-Islam wa’l Nasraniyyah*, *Risalat al-Tauhid* and *Risalat al-Waridah*. This collection is indispensable for analytical understanding of Abduh’s key ideas and views that has been properly documented, to place him in his rightful position as the great revivalist of the modern Egypt.

2. Abduh’s contribution to modernity

Albert Hourani in his classical work *Arabic Thought in the Liberal Age 1798-1939* discussed modern reform movement inaugurated by Muhammad Abduh and his struggle to introduce modern approach in al-Azhar teaching curriculum and establish modern Islamic institution and society in Egypt. This was magnified by the influence of Jamal al-Din al-Afghani who advocated Pan Islamic agenda and the struggle for scientific renaissance and political reform. In this regard he says: “the starting-point of his thought, as of al-Afghani’s, was the problem of inner decay, the need for an inner revival.

He was conscious, as al-Afghani had been, of a type of decay peculiar to Islamic societies... ‘Abduh’s purpose, in all the acts of his later life as well as his writings, was to bridge the gulf within Islamic society, and in so doing to strengthen its moral roots. He thought this could only be done in one way. It could not be done by a return to the past, by stopping the

process of change begun by Muhammad ‘Ali. It could only be done by accepting the need for change, and by linking that change to the principles of Islam.” (Albert Hourani, 1962: 136-139). In her great article entitled *Muhammad Abduh: Pioneer of Islamic Reform* Yvonne Haddad investigate Abduh’s enormous contribution to modern Islamic thought and analyzed his modern aspiration for comprehensive reform and renewal of the modern Egypt, by introducing systematic change in the direction of al-Azhar University and radically reform the structure of educational system and political landscape of Egypt.

In this regard she says: “Abduh cast off the last vestiges of world-denying asceticism and entered the world of socio-political activism from which he never retired, although ultimately he was to eschew Afghani’s revolutionism in favor of a more conciliatory and evolutionary approach.” (Yvonne Haddad, 1994: 32). Abduh’s modern ideas have been substantively discussed by Charles C. Adams, in his extensive work, *Islam and Modernism in Egypt: A Study on the Modern Reform Movement Inaugurated by Muhammad ‘Abduh* highlighting his contribution to modernity and the struggle for Islamic reform and renewal.

In his introduction to the work Charles said: “an effort is made to set forth the origin and development of the modern reform movement, to estimate the extent of its influence, and to discover whether any relation exists between the ideas of Muhammad ‘Abduh and those of the author...and other writers who, like him, belong to the modern Egyptian School,” (Charles C. Adams, 1933: v). Many other works have been written in the same theme discussing Abduh’s contribution to establish modern Egypt, and his struggle to modernize al-Azhar.

3. Abduh's contribution to science

John W. Livingston in his article "Muhammad Abduh on Science" presents brief discussion on Muhammad Abduh's doctrine on science which was heavily influenced from Jamal al-Din al-Aghani's "*al-Radd 'ala al-Dahriyya*" [Refutation of the Materialist] which Abduh himself translated from Persian. Abduh's support for science was grounded in his interest of cultural efflorescence, freedom and progress, spiritual exploration, dynamic interaction of ideas and civilization, and the debunking the myth and *taqlid* (blind imitation of the past) which "was an aim dear to 'Abduh's heart" (John W. Livingston, 1995: 211).

Abduh admired "metaphysical frame of the universe" embedded in systemic ground of Islamic principles, and he wrote around this theme quite consistently, which reveals the influence of Afghani's *Radd*, Sayyid Ahmad Khan's *Natcheriyya*, Ibn Khaldun's *Prolegomena*, Taftazani's *Sharh al-'Aqa'id al-Nasafiyyah*, Ibn Sina's *Isharat*, Suhrawardi's *Ishraq*, Jaghmini 'Aja'ib al-Makluqat and Nasir al-Din al-Tusi's scientific and ethical works. Livingston spoke about Abduh's career in Al-Azhar where he attempt to have *Muqaddima* of Ibn Khaldun and its social philosophy, along with geometry, geography, arithmetic, and algebra introduced into the curriculum.

He also discussed Abduh's attempt to harmonize science and scripture by his insistence that "both science and religion are rooted in reason, and that the Qur'an urges man to use his reason. Reason is Islam's strongest support," (p. 213). In his *Risalat al-Tawhid*, Abduh cited Qur'anic passages that positively excite scientific interest, such as surah *al-Baqarah*, verses 18-19, and surah *al-Anbiya'* 16-18 which demonstrate the fixity and natural law in God's ordained *sunnah* of the universe: "Verily, We did not create heaven and earth and everything between them as a game to play". Livingston's work is greatly important for our investigation of Abduh's scientific

worldview and his significance ideas of science, showing the development of science in the mid nineteenth to the early twentieth century and how it flourished in Egypt and al-Azhar through the effort and struggle of Abduh.

Charles C. Adams in his *Islam and Modernism in Egypt*, also discussed extensively Abduh's scientific doctrine and his effort to harmonize religion and reason. He further elucidates Abduh's conception of Islam advocating the essential relation between reason and religion, and the relation between science and religion. Charles gave extensive quotations from Abduh's writings to show his general attitude to modern science and religion, in which he says: "a religion, purified of all later growths and freed from sects and divisions; this religion, should be considered as one of the checks upon human reason, which God has bestowed to hold men back from excesses and to lessen their errors." (Charles C. Adams, 1933: 127), and his statement on reason: "reason alone is not able to ascertain the causes which secure the happiness of nations, without a Divine director; just as an animal is not able to apprehend all the objects of sense by the sense of vision alone, but is in need, at the same time, of the sense of hearing, for example, to apprehend the objects of hearing. In like manner, religion is a general sense, the province of which is to discover means of happiness which are not clearly discernible by reason.

But it is reason which has the final authority in the recognition of this sense, and in directing the exercise of it in the sphere for which it was given, and in the acceptance of the beliefs and rules of conduct which this sense discovers for it" (p. 128). Aziz al-Azmeh in his *Islam and Modernities* (1996) offers critical analysis of 'Abduh's scientific ideas, which attempt to reconcile between reason and revelation and to revive Islamic science. Malcolm H. Kerr in his thesis on *Islamic Reform: the Political and Legal Theories of Muhammad 'Abduh and Rashid Rida* (1966) discussed rational base of Abduh's scientific works such as *Tafsir al-Manar*. He

analysed Abduh's modern perspective on science and technology and his political ideas and expose his doctrine and understanding of Islamic legal thought.

4. Abduh's scientific exegesis

Works analyzing Abduh's scientific approach to the Qur'an chiefly discussed by Adnan bin Mohamed Yusoff, in his doctoral thesis *Al-Imam Muhammad 'Abduh: Tokoh Pembaharuan Ilmu Tafsir* [*Al-Imam Muhammad 'Abduh's: Renewer of the Science of Tafsir*] which provides an extensive and detailed analysis of *Tafsir al-Imam Muhammad 'Abduh* and its impact on the direction of tafsir after him. It offers defining analysis of Abduh's pioneering work in tafsir. Imam Muhammad Abduh had developed four fundamental reform in approaching the text namely (1) tajdid (reform) in conceptual framework of tafsir (2) tajdid (reform) in pre requisite and requirement of tafsir (3) tajdid in methodology of tafsir, and (4) tajdid in tafsir (exegesis) such as in defining the term *malai'kat*, *tayran ababil* (birds, in flocks), polygamy and divorce which chiefly based on rational ground.

His scientific approaches of exegesis, place special emphasize on the Qur'an as a guidance to mankind, emphasizing on the aspect of reform and moral development and the right approach to attract people to the Qur'an, namely by understanding the essence of Quranic phrase, and its linguistic style, and the history of the Prophet (saw) and his companions (rad), and natural law governing the condition and social norm of people.

This work also discussed the impact of Abduh's scientific commentary, which has been instrumental in the development of modern approach in tafsir, namely scientific exegesis (*al-ittijah al-'ilmiy*) which attempt to examine the Qur'an in the light of modern science, as

propounded by ‘Abd al-Hamid bin Badis in *Tafsir Ibn Badis*, Tantawiyy Jawhari in *al-Jawahir fi Tafsir al-Qur’an*, Lajnah al-Qur’an wa’l Sunnah, Cairo, in *al-Muntakhab fi Tafsir al-Qur’an*, and, Muhammad ‘Abd al-Mun‘im al-Jamal in *Tafsir al-Farid*. Abduh’s social approach to the text also had geared towards development of socio-political exegesis (*al-ittijah al-ijtima’iy*), as advocated by Sayyid Qutb in *Fi Zilal al-Quran*, Rashid Rida in *Tafsir al-Qur’an al-Hakim*, and Mahmud Syaltut in *Tafsir al-Qur’an al-Karim* which try to provide new perspective on the relevance of the Qur’an to contemporary Muslims, and moral refinement approach (*al-ittijah al-tahdhibiy al-akhlaqi*) advocated by Ahmad al-Maraghi in *Tafsir al-Maraghi*, Muhammad Hijazi in *Tafsir al-Wadih*, ‘Abd al-Jalil ‘Isa in *al-Mushaf al-Muyassar*, thematic exegesis (*al-tafsir al-mawdu’iy*) which focus on the unity of the Qur’anic text over the interpretation of verses in isolation like *Nahwa Tafsir Mawdu’i* by Muhammad al-Ghazali, and linguistic approach (*al-tadhawwuq al-adabiyy fi al-tafsir*) like *al-Tafsir al-Bayaniy* by Bint al-Shati, and *al-Taswir al-Fanni fi al-Qur’an* by Sayyid Qutb.

The influence of Madrasah tafsir Shaykh Muhammad Abduh has been enormously felt and continuously grow and expanded in Egypt, Syria, Algeria, Tunisia, Turki, Iran, India, Malaysia and Indonesia and his ideas has been reverberated in the Islamic world by the works of prominent exegetes (*mufasssir*) such as Jamal al-Din al-Qasimi in *Mahasin al-Ta’wil*, Hamka in *Tafsir al-Azhar* and Ibn ‘Ashur in *Tafsir al-Tahrir wal Tanwir*.

Abduh’s scientific exegesis as presented in *Tafsir al-Manar* was thoroughly analyzed by Dominican Orientalist, J. Jomier (1954) in his *Le Commentaire Coranique Du Manar* who skillfully distinguished the idea and method of Shaykh Muhammad Abduh and Rashid Rida, and considered that both viewpoints correspond with ‘*la scholastique chretienne*’ that the relation of reason and revelation was complementary and not antithesis. Another works discussing his

scientific commentary is penned by Mohd. Quraish Shihab's in his *Studi kritisTafsir al-Manar* (*Critical Study on Tafsir al-Manar*) which critically examine Abduh's scientific method of exegesis, Rif'at Syauqi Nawawi's *Rationalitas Tafsir Muhammad Abduh* (*Rational Exegesis of Muhammad Abduh*), and Abdullah Shahatah's *Manhaj al-Imam Muhammad Abduh fi Tafsir al-Qur'an al-Karim* (*The Methodology of Muhammad Abduh in Quranic Commentary*).

These works tried to analyze his views on science taking new perspectives on his scientific commentary from *Tafsir Juz 'Amma* and *Tafsir al-Manar*. J.J.G. Jansen, in his book *The Interpretation of the Koran in Modern Egypt* (1980) investigates modern works of Qur'anic exegesis in Egypt, such as Mustafa Mahmud's *Quran Exegesis*, Hanafi Ahmad, Hassan al-Banna, Tantawi Jawhari, and Dr. 'Aisha 'Abd al-Rahman Bint as-Shati's commentary on the Qur'an (*al-Tafsir al-Bayaniy*) and Muhammad Abduh's *Tafsir al-Manar*. On *Tafsir al-Manar*, Jansen rely heavily from the works of Dr. J. Jomier's *Le commentaire Coranique du Manar* (1954) and Dr. J.M.S. Baljon's *Modern Muslim Koran Interpretation* (1961). He discussed Abduh's commentary which has great influence in most of the modern works of tafsir and write on his method of interpretation which relate to modern ideas of religion, philosophy, natural history, reason, science, philology and knowledge.

He discussed Abduh's masterly interpretation on *Jinn*, which he understood as microbes, and lightning, which ideas he relate to the discovery of electricity, telegraph, telephone and tramcars and conclude that Abduh "wants his readers to realize that Islam is tolerant to all scientific investigation, and that the Koran is too elevated to be contradicted by modern science" (p. 34). He also applauded Rashid Rida's social exegesis of the Quran in his *Tafsir al-Quran al-Hakim* where he courageously diverged from Abduh's method (when he had to work independently after his death), "by treating the text of the Koran in a more elaborate way." (p. 77). Rida embark on new

initiatives to solve ancient controversies that have divided the Ulama and devoted more attention to questions of creed and law pertinent to contemporary Muslims. Conclusively this book has been instrumental in our investigation of Abduh's scientific views and his doctrine of modern science and the Qur'an.

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Muhammad Abduh's Environment and Works

This chapter presents the life and times of Muhammad Abduh (1849–1905), discussing the characteristic of his works and social milieu he faced, and addressing the significant thought and achievement he made through his journals and celebrated works. A brief discussion on his worldview (*tasawwur*) and the position he takes towards his milieu will be analyzed. The focused is to bring to light the social impact this environment made in the development and formation of his thought. The idea of reform and discursive thought on Islamic revival was developed during this period witnessing the clash of ideas contested between the old guard and young Turk of Egyptian Islam. ‘Abduh’s influenced was pervasive in the late nineteenth and early twentieth century backed by his powerful oration and critical call to dismantle the obsolete tradition of *taqlid* (blind imitation) and to reclaim the high position of Islam in the current advanced of empirical and scientific discovery championed by the West.

1. Background

Muhammad ibn Abduh ibn Hasan Khayrullah was born in 1849 in Buhayra, a local farming village in Mehallat Nasr, Tanta, Egypt. He was a pure Egyptian, belonging to the race of Fellahin who had cultivated the Nile Valley for nearly thousand of years (Uthman Amin, 1955: 4). His mother was descended from the clan of Bani ‘Adi, the tribal line of the second Caliph, Saydina ‘Umar ibn al-Khattab (rad). He received his education from private teacher and a reciter of the Qur’an. At an early age of thirteenth, he learned religious sciences at Ahmadi mosque, an established centre of learning in Egypt. He lived there for three years, without showing any interest in the instruction leveled at him by discouraging teaching method. After a while at school,

he ran away and return to his village to work in the field, and soon he get married with local girl. With the intervention of his uncle Shaykh Khadr Darwish, and inspired by his beneficial counsel, Abduh return back to school, and the Shaykh remain as “a spiritual guide and a director of his conscience.” This lasting experience was recall by Abduh in connection to his later undertaking of scientific learning: “All my cares vanished, and I thought of nothing else but to perfect myself in science and to improve my conduct. I had no one to guide me towards this new object of my desires but the Sheikh Darwish Khadr who had first liberated me from the prison of ignorance in opening to me the doors of knowledge. He had broken for me the chains which had bound us when we repeated blindly all that we were told, and had brought us back to true religion. This Sheikh was for me the key to happiness, if there is happiness for me in this vile world. It was he who revealed to me my natural inclinations of which I had myself been unaware.” (Uthman Amin, 4)

In 1866, he enrolled at al-Azhar University taking subjects in logic, philosophy and mysticism, and showed great inclination towards Sufism and meditation, “and moved into imaginary world where he thought that he held converse with the spirits of men of former generation.., and reached such a state of otherworldliness and aversion to association with people” until he met Jamal al-din al-Afghani who finally cured his extreme devotion to Sufism (Charles C. Adams. 32). Abduh spent only two years in al-Azhar, and lavished his critical attack to its conservative tendencies and obsolete religiosity, and debunk the pervasive *taqlid* inherent in its tradition and structure: “If I have a portion of true knowledge, I got it through ten years of sweeping the dirt of the Azhar from my brain, and to this day it is not as clean as I would like” (Mark Sedgwick, 2010: 103)

Abduh felt discourage by the backward system and archaic method of memorization lavished to its pupils, and the decadence way of learning, as observed by Dr. Mohammad Sabri: “They overloaded the memories of the pupils with a jumble of very complicated grammatical knowledge and of theological subtleties made to cramp the spirit and to prevent its development.” (Uthman Amin, 4)

After the arrival of Jamal al-din al-Afghani, a brilliant Islamic reformer and philosopher famous for his resistance against western colonial power who made his political campaign in Cairo, Abduh became his arduous supporter and student. He began to associate with Afghani from the first of Muharram, 1287/1870 and embarking on serious studies with him. He persistently joined him in the revolt against the British until they were parted when Afghani was banished to Hyderabad. Afghani advocated the idea of pan-Islamism which attracted the Muslim to form a *Khalifah* after the decline of Ottoman rule. Under Afghani’s influence, Abduh developed his interest in education and strengthen his resolve to reform and his mastery in journalism, politics and mysticism. Afghani restless effort has developed lasting impact on Abduh’s political struggle to solve the critical problems of Islamic world, and to developed new alternative to match the pace of achievement in the west. Rashid Rida, in his brief lecture published in *al-Manar* (The Beacon) entitled *al-Tajdid wa al-Tajaddud wa al-Mujaddidun* (Renewal, Renewing, and Renewers) succinctly clarified the contribution of Afghani and Abduh to Islamic renewal: “Jamal al-Din [al-Afghani] and Muhammad ‘Abduh have [formed] a scientific, rational, and reformist group, capable of following their footsteps and proceeding with their reforms insofar as the *umma* has seen the brilliance of one of them in political leadership, which was inconceivable before [the *umma*] became ready to rise up with him and acknowledge his stature.” (Rida, 1931)

Afghani was admired by oriental nation as “the champion of religious and political freedom.” Ernest Renan (1823-1892), a French expert of Middle East ancient civilization and influential philosopher of nineteenth century, described him as great educator, and relate his extraordinary influence in the following term: “His liberty of thought, and his noble and loyal character made me believe, while I conversed with him, that I had before me, brought to life again, one of my old acquaintances, Avicenna, Averroes, or such another of those great free thinkers who had represented for five centuries the traditions of the human spirit.” (‘Uthman Amin, 5)

In 1877 Abduh received his degree (*shahadah al-‘alim*) with license granted him to teach. He started teaching logic, theology and ethics at University of al-Azhar. Later he became professor of history in Cairo’s Teachers’ Training College (*Dar al-‘Ulum*) in 1878. Abduh also teach Arabic at Khedivial School of Languages, and was appointed as chief editor of al-*Waq’a i al-Misriyyah*, the official newspaper of the state.

Abduh’s struggle at reforming the entire spectrum of Egyptian society was obvious in the late nineteenth. The initial reform he started was in educational sector. Abduh believed that good approach to religious education could inculcate moral strength and nurture child’s ability to reason. He denounces the ambivalent corruption, superstition and luxurious way of life that is dominant in Egyptian culture.

2. Exile

In 1882, Abduh was exiled from Egypt, by lending his support to the Urabi revolt. His uncompromising stand is that every society should be allowed to choose suitable form of government based on its unique history and tradition. He spent several years in Lebanon to set up Islamic educational institution with greater foundation of structural reform. In his foundational analysis of the modern Islamic movement in Egypt, Michael Youssef illustrated the condition leading to the banishment of Abduh from Egypt: “the army uprising under the leadership of Colonel ‘Urabi threatened the administration of the Khedive. The British wasted no time in landing their troops in Egypt in 1882 with the declared purpose of restoring the authority of the Khedive and eliminating what they felt to be a threat of disruption to communication between the British and Indian empire. This action on the part of the British intensified the nationalist-conscious resistance to Britain. Chief among them was al-Afghani’s student Shaykh Muhammad ‘Abduh.” (Michael Youssef 1985: 54)

Abduh travel extensively around the globe, and making his greatest journey to Europe and Africa in the later phase of his life. He made frequent visit to Tunisia, Britain and Paris to join the high ranking class and elaborate his position about Egypt and Sudan. Abduh had far-reaching interest in Europe, and significant enthusiasm with its sweeping civilizational heritage, knowledge and religious strength: “I go to Europe so often only to renew my hope of changing the conditions of the Muslims for the better by reforming the religion that they have corrupted, and to spur them to a knowledge of their own affairs and a control over these without going to extremes, and these hopes would grow feeble in my soul when I come back to my own country because of all the wrongdoing I came in contact with, the grave difficulties I encountered, the evils I saw because of the Muslims’ disregard for their own advantage, their hostility towards themselves, their great eagerness to strengthen the grip of their oppressors on them, and their

fondness for unthinking servitude to them. But when I returned to Europe, and stayed there a month or two, my hope would come back to me, and it would seem easy to attain what I had thought impossible.” (Mark Sedgwick, 2010: 101)

Abduh returned to Beirut in 1885, after spending his time in Paris collaborating with al-Afghani to publish the Pan-Islamic revolutionary review, *al-'Urwa al-Wuthqa* (the indissoluble bond) which outlived for eighteenth month. He received high favor in Beirut and gathered around him scholars from all persuasions and background. He made remarkable contact with Christians and Jews and try to persuade religious reform and social change in the community.

Abduh return to Egypt in 1888, and resumed his legal career as judge in the court of native tribunals, and appointed as consultative member in the court of appeal in 1890. In 1899, he became Grand Mufti of Egypt and actively engaged in religious movement and social activity, and held important post as president of the society for the revival of Arab sciences. Taking high position in Egypt, intensify his effort for reform, in which he “faced the dilemma of the inner decay and the need for inner revival in Egypt.” (Albert Hourani, 136)

The struggle and clamor for change was intensified with his effort to bring radical improvement in al-Azhar, dedicated to the restructuring and reframing of educational system, and overhaul the overall pedagogy, examination, curriculum, method of learning and teaching scheme. For this purpose, he traveled extensively to western countries like French, Germany and England, learning from their secular and religious tradition and researching in libraries in Vienna and Berlin. The resulting conclusion was that the impasse in the Muslim world was due to the pervasive ignorance of the Muslims and despotic rules in their homeland.

After suffering brief illness Abduh passed away in his friend's home, Muhammad Bey Rasim in Seffer, Ramleh in 11 July 1905 at a relatively young age. He died at the height of his activity and left an indelible mark of remarkable life and unaccomplished works of reform to be carried out by his arduous followers. He lies in the cemetery of Al-Afifi in Cairo. (Uthman Amin, 6)

Abduh dramatic life illustrate perfect example of a Muslim reformer who genuinely strive to realize the ideal teaching of Islam, as described by Kamil al-Shinnawi, a young Egyptian writer: "Abduh's life (reveal) a mélange of the life of a prophet and that of a hero" (Uthman Amin 1957: 165).

His dynamic influenced continue to expand and persisted, particularly his rational and liberal thought, as clarify by Nasr Hamid Abu Zaid in his analysis of Egypt critical history and reformation of thought: "after his death in 1905, Muhammad 'Abduh's rational spirit remained alive throughout the Egypt of the 20th century. The rational and conservative tendencies perpetuating his writings were both separately expressed. Meanwhile, the national movement against the British occupation grew apace. Just two years after 'Abduh's death, Egypt witnessed the birth of three political parties, each with its own cultural and political agenda and its own newspaper. The National Party, *Hizb al-Ummah*, had the journal *al-jarida*, the Reformation Party, *Hizb al-Islah*, had *al-Muayyad*, and the Patriotism Party, *al-Hizb al-Watani*, had *al-Liwa*." (Nasr Hamid Abu Zaid, 2006: 38)

In the *Tarikh* of Muhammad Rashid Rida, he expounded the great situation that taking place in Egypt and al-Azhar, that witness sudden pervasive influence of Muhammad Abduh stormed with extended and dramatic impact in the entire Egypt: "with the death of Muhammad 'Abduh, all the virulent criticisms, violent attacks, and covert intrigues that had centred about his person and been directed against his activities, and which seem to have increased in intensity during his last two

years, were silenced and rebuked in the widespread and very general acknowledgment of the irreparable loss which Egypt and the cause of Islam had sustained in his death. Differences of opinion and even differences of religion were forgotten as Muslims, Jews, and Christians united to pay honour to one whom all now recognized as a genuine patriot, an exceptional scholar, and a courageous and great-minded leader and reformer.” (Rida, 60)

3. The Milieu of Abduh

A comprehensive survey of Abduh’s milieu will undoubtedly help in understanding the impulse behind the reform movement inaugurated by him in the late nineteenth. It will clarify and situate his works in its historical context and explained certain themes relating to fundamental aspect of his life and social background, the type of environment from which he emerged, what stimulate him to undertake radical reform, how the environment is instrumental in encouraging him to pursued reform agenda, and the main current of thought prevalent in his milieu.

3.1. Social

The origin of Abduh’s revolutionary view may have rooted from the social stagnancy and backwardness of Egyptian society. The repercussion of Afghani’s ideas and the influence of pan-Islamic view profoundly developed his aspiration to radically establish social liberation and reform at al-Azhar. Abduh was trained as an *‘alim* (religious scholar), and under the influence of al-Afghani, he developed his interest in Islamic philosophy and a revulsion of al-Azhar’s traditional methodology which stifled the development of reason, encouraging *taqlid*, following authority and accepting the received opinion uncritically. The encounter between the modernist

and traditionalist was clearly discussed by Riddell in his work, *Islam and the Malay Indonesian World, Transmission and Responses*: “Modernists wish to maintain the unity of religion and politics but believe in the need to draw on elements of modern Western culture and lifestyle which could facilitate this overall goal. The influence of a westernized modern life is clear with this group.” (Riddell, Peter G., 2001: 82).

The social norm in Egypt was dominated by the rigidity and irrational views relying on obsolete understanding of religion. It was highly challenging in the struggle between faith and science which stimulate the reform initiative undertake by Abduh. He sought to synthesise Western culture and Islamic ideals, arguing that Islam is essentially rational and compatible with modern scientific philosophy.

The modernizing trend of the Arab, and the movement of ideas in Egypt in response to the expanding influence of the Europe, has been instrumental in the emergence of two main streams of thought, the one aiming to restate the social principles of Islam, and the other to justify the separation of religion from politics. This was the landscape instrumental in the political and social change in Abduh's time. The two streams of thought flowing in different ways to create the Egyptian and Arab nationalisms in that century. According to Gibb, the westernizing movement and the influence of the European culture has increased the need for more religious adaptation to the developing sciences and technology pervasive in Egypt. (Hamilton Gibb, 1947: ch. 4)

Abduh's idea of modernism was supported by the young radical and leftist element in the society seeking to influence the political and social direction in Egypt, including most of progressive Egyptian press such as *al-Mu'ayyad*, *al-Ahram*, *al-Muqattam*, *al-Watan* and *Thamarat al-Funun* of Beirut. Taha Husayn, Egypt's leading intellectuals and writers, in his political autobiography, recall the memory of his study with Abduh, explaining 'true Islam' in his

own words: “he has been up to Cairo to sit at the feet of Shaykh Muhammad Abduh and imbibe his dangerous and abominable opinions; and now he has come back to lead his townsfolk into error and perdition.” (Mark Sedgwick, 104)

Unlike his mentor whose interest is in the revival of political Islam, ‘Abduh concentrated his reform on ideological based armed with fundamental knowledge of modern science, defending the reason and impressive *ijtihad* practiced by the salaf. In his *Tarikh*, Rida had produced Abduh’s clarification defending his initiative to undertake reform of modern science: “the ‘Ulama who are the spirit of the nation have failed so far to see the benefit of the modern sciences. They continue to busy themselves with what might have been suitable for a time that is long gone by, not realizing the fact that we are living in a new world. We must study the affairs of the other religions and states in order to learn the secret of their advancement. We see no reason for their position of wealth and power except their progress in education and the sciences in their countries.” (Rida, ii, 36)

The main fear of Abduh was the secularization by (Mohammad) Ali and his successor [Khedive Ismail (1863-1879), Muhammad Alis’ grandson] of a society fundamentally religious (Albert Hourani, 136). He believes what was required to bridge the gap in Islamic society was not a return to the past by stopping the process already begun by Mohammad Ali, but rather the acceptance of the need to change and the linking of that change with the principles of Islam – proving that Islam can accommodate a principle of change and exercise salutary control over it -. Like Afghani, Abduh firmly believed that the Muslim ummah could not become strong and prosperous again until they acquired from Europe the sciences which were the product of its activity of mind, and he believed that they could do this without abandoning Islam. (Michael Youssef, 55)

3.2. Politics

Abduh's political life was influenced by Afghani's ideals of rational liberation and Pan-Islamic outlook. His political philosophy has been geared towards uplifting religious ideals and position and intellectually supporting Afghani's modernism and Ibn Taimiyyah's aspiration, the founder of salafiyya aspiring the returning to idealized past. Abduh's political activism is less radical than his mentor, for he incline to concentrate on religious, legal and educational reform.

Abduh believed that Islam is based on revelation and reason, and was compatible to modern ideas and tradition, but in the course of times have been distorted by extrinsic factors. He sought to dismantle the obsolete tradition of *taqlid* and tyranny of colonial rules in Egypt. His involvement in political activity was centered on the liberal aspiration which sought to engineered a young cadre of Muslim Egypt to sustained the reform effort, which for some reasons has develop an influenced to modernist views espoused by 'Ali Abd al-Raziq in his book, *Al-Islam wa Usul al-Hukm (Islam and the Fundamentals of Authority)* which has aroused a furor of opposition from the traditionalist camps of al-Azhar (Charles C.C., 1968).

In the sub-title: *A Study of the Caliphate and Government in Islam* he relates the connections of European strategic influence in the Muslim world and its pervasive impact in the structure of power in Egypt. 'Abd al-Raziq also enthusiastically demand to reinvestigate and reviewing the root and origin of Islamic caliphate. Abduh's influence in this connection was obvious for he tried to persuade a more radical and critical views of the accepted history and tradition of Islam.

The emergence of reformist thought in Egypt was inspired by the aspiration and strategic reform movement inaugurated by Abduh in the late nineteenth. His impact was instrumental in

the revolution and radical change of Muslim's worldview tracing his greatest and lasting legacy in Egypt, as has been aptly proclaimed by al-Afghani, when leaving the land of Egypt for the last time: "I leave you Shaikh Muhammad 'Abduh, and he is sufficient for Egypt as a scholar".(J. Zaidan, 1968).

Abduh's substantive ideas for reform were profoundly derived from his political engagement with al-Afghani, with decisive influence that Abduh soon came to "follow him like his shadow" (Rida, viii, 389). Afghani seeks to restore the glory of Islam through political adoption of western values and institutions, in making a direct coincidence between the spirit of the texts and contemporary European values, as he mentioned: "I cannot keep from hoping that Muhammadan society will succeed someday in breaking its bonds and marching resolutely in the path of civilization after the manner of Western society" (Kurzman, 2002, p. 108).

The political movement he embraced was particularly drive for reform and a return to the simplicities of the faith. Afghani imparted to Abduh treasures of indiscriminated wisdom, and introduced various works of politics, philosophy and science and opens before his gaze western scientific thought and achievement. Abduh was trained politically to write article for the Press, and this was particularly evidenced in the publishing of highly influential journal, *Al-'Urwah al-Wuthqa* in Paris. Abduh excel his master in eloquence and power of articulation and writing and unsurpassed mastery of Arabic language. This has led some quarters to argue that it was Abduh who personally wrote all the articles in *Al-'Urwah al-Wuthqa*.

Abduh role as Chief Mufti in Egypt has been instrumental in substantive implementation of reform that was unprecedented in the history of the Arab. He encouraged the flourishing of ideas and the flowering of religious thought seeking to harmonize between reason and revelation.

Abduh's work was instrumental in developing the foundation of Islamic thought and the proliferation of *ijtihad*. Albert Hourani in his penetrating analysis of Abduh's contribution to modern Egypt, articulate that Abduh's far reaching influence was due to his genuine passion for reform and the way the political and social ideas change in the Arab Middle East: "He was to become a more systematic thinker than his master and have a more lasting influence on the Muslim mind, not only in Egypt but far beyond. His teaching was in the end to be rejected by many of those to whom he addressed himself, but remained working beneath the surface, the unacknowledged basis of the religious ideas of the ordinary educated Muslim." (Albert Hourani, 1962: 130).

Works

Abduh's extensive works was primarily compiled by his students, Muhammad Rashid Rida. Rida remains his single most authoritative and influential disciple, and the principle advocate of 'Abduh modernist and rationalist thought. Abduh's literary production was impressive, ranging from the vast array of discipline in tafsir, hadith, theology, philosophy, science, language, and history. Rida had comprehensively recorded Abduh's historical works, giving its chronological order in *Al-Manar*, vol. viii, p. 492 (C.C. Adams, 271), and meticulously edited and published his writings in the influential periodic. The comprehensive lists of 'Abduh's writings are also provided in the introduction to the French translation of *Risalat al-Tawhid* by M. Michel and Mustafa 'Abd al-Raziq, and in M. Horten's biographical account of Muhammad Abduh in *Beitrag zur Kenntniss des Orients*.

In his masterpiece, *Tarikh al-Ustadh al-Imam Muhammad Abduh* [biography of Muhammad Abduh] Rida wrote on Abduh's superb biography and life history and documented his principal works and intellectual legacy. Many references to Abduh's works can also be traced in modern works of tafsir, such as *Tafsir al-Manar*, *The Message of the Qur'an* by Muhammad Asad, *Tafsir al-Azhar* by Haji Abdul Malik Karim Amrullah (Hamka), *Tafsir al-Qur'an al-Karim* by H. Abdul Halim Hassan and Zainal Arifin Abbas, *Tafsir al-Nur* and *Tafsir al-Bayan* by T.M. Hasbi al-Siddiqi with extensive discussion on his philosophical ideas and doctrine.

The complete works of Abduh had been compiled and edited by M. 'Imara in 1972, published as the monumental collection *A'mal al-Kamilah* [completed works]. This included comprehensive writings and reminiscence of his letters collected by Imara from Abduh's personal correspondence. He offered much discussion on the history of ideas and social idealism of Abduh. The prolific and productive works of Abduh in tafsir, jurisprudence, 'aqidah, and comparative religion was highly influential and hailed for its authenticity, unprecedented commentary and scholarly analysis. This work will survey certain major patterns of his ideas and expose the principal themes and underlying method of his works:

1. *Tafsir al-Qur'an al-Hakim: al-Shahir bi-Tafsir al-Manar*

Kitab *Tafsir al-Manar* is a monumental work by Shaykh Muhammad Abduh and Sayyid Muhammad Rashid Rida. It analyzed social ideas and advocate rational

understanding of the text. It is an extensive and detailed exegesis of the Qur'an with definitive focus on scientific method of exegesis. *Tafsir al-Manar* or *Tafsir al-Imam Muhammad 'Abduh* was scientifically construct, combining the authority of reason (*ma'qul*) and revelation (*manqul*) and rational and critical understanding of the text and excluding the supernatural and allegorical nature of certain aspect of the tafsir. The work proclaimed significantly modern scientific approach based on socio-political exegesis and is highly acclaimed as the most influential tafsir in the twentieth century. This work is significantly phenomenal in its explanation of Islamic norms, ethics, culture and science and its relevance to Islamic practice in modern time. *Tafsir al-Manar* was instrumental to inspire the spirit of *ijtihad* and this was guided by its fundamental aspiration and philosophy to build an understanding of the Qur'an based on *ijtihad* (independent reasoning in religious law). The influence of this unfinished work was expanding dramatically in the Islamic world as stated by Jane Dammen McAuliffe: "Of the most influential commentaries of early modernity was the collective work of two pillars of reformist thought in Egypt, Muhammad Abduh (d. 1905) and Rashid Rida (d. 1935)." (McAuliffe, Jane Dammen, 2006 :280). *Tafsir al-Manar* was derived from lectures given by Muhammad 'Abduh to his audiences at *Jami' al-Azhar*, from 1 Muharram 1377/12 May 1899 to 15 Muharram 1323/23 March 1905. Rida took copious notes from the lectures, and he consistently expanded it. It made its first debut in *Majallah al-Manar* (the lighthouse) in Muharam 1318/May 1900 and continuously printed in journal *al-Manar* until late 1935. The enlarged work was shown to Abduh, who approved and corrected it, and later appeared in the periodical *al-Manar*, vol 3, 1900 as "*Tafsir Manar of Abduh*." Abduh principle method of exegesis was clearly inspired by his scientific outlook, emphasizing on high mastery of Arabic language and battling *taqlid* (blind imitation) to the

ground. Other main ingredient of his exegesis is the spiritual approach to synthesis character development and refinement of heart, liberating mind and reason from false mythology, materialistic, and developing ethical and moral prowess in line with the Quranic injunction. The tafsir was carried during Abduh's lifetime from *suratal-Fatihah* to chapter 4, verse 125 of surah *al-Nisa'*. Rida continued the work from Sura 4:125 to Sura 12:107, indicating those parts which were the result of Abduh's lectures and his own additions. The influence of *al-Manar* can be traced from the work of many exegetes in the Malay-Indonesian world such as Tafsir *al-Azhar* (Hamka), Tafsir *al-Quran al-Majid*/ Tafsir *al-Nur* (T.M. Hasbi ash-Shiddieqi), Tafsir *al-Furqan* (A. Hassan Bandung), Tafsir *Pimpinan al-Rahman* (Abdullah Basmeih), and Tafsir *al-Qur'an al-Karim* (Zainal Arifin Abbas).

2. Tafsir Juz 'Ammah (commentary on the last thirty-seven chapters of the Qur'an 78-114)

Tafsir *Juz 'Ammah* was a highly influential tafsir with significant and definitive approach of exegesis, providing standard and rational explanation of the text. It was scientifically constructed based on dynamic social exegesis with persistent focus on the empirical and rational understanding of the Quran. It was compiled from the lectures delivered by Abduh during his sojourn in *al-Jaza'ir* in 1321/1902. The tafsir is mainly relying on his seminal teaching (*mudhakarah*) of the surah explaining the fundamental ideas of *tauhid* and jurisprudence.

Tafsir *Juz 'Ammah* is a definitive work on the interpretation of the Qur'an produced by Shaykh Muhammad 'Abduh, offering scientific commentary, and penetrating analysis of the text. The request of the community members of *al-Jam'iyyah al-Khairiyyah al-*

Islamiyyah was instrumental in the writing of this seminal exegesis. The community had requested him to write an exegesis of *Juz 'Amma Yatasa-alun* (chapter 30) and *Tabarakalladhi biyadihil-mulk* (chapter 29). The tafsir was produced in unprecedented ways based on reformist approach which emphasis on the context of the verse and its historial evolution (*asbab al-nuzul*), by taking its chronology into account, as mentioned by Tariq Ramadan in his comparative analysis of literalist and reformist readings of the Qur'an on the status of women: "reformist approach reaches out beyond the historical context to extract fundamental objectives as to women's identity and their status as autonomous beings. Women should thus become subjects and master their own fates." (Tariq Ramadan, 2010: 63). Abduh's reformed style of commentary present simple explanation of the *ayat* (passages), negating the differences (*khilafiyah*) of *madhahib* (school of fiqh) and difficulties of grammars (*nahu*) as the norm of traditional exegesis.

It has been cherished for highly independence and critical analysis of the *ayat* and excellence reference to classical tafsir with unique approaches in presenting and arguing its stand and principle, insisting that the ultimate objective (*maqasid*) of every passage in the Qur'an is to provide guidance to mankind.

Tafsir *Juz 'Amma*, was first printed with journal *al-Manar*, and later published separately in Cairo in 1322/1904. Its intrinsic aims was to train student to understand what they memorize, and investigate what they read, and compounded faith with proof, and to take implicit lesson from the surah, which would stimulate radical change in their moral rectitude and religious practice. Abduh use simple language, so that who read or listen to his lectures can understand, with fine heart and good intention. The *Tafsir* was written

throughout his sojourn in Europe, and was completed in Geneva, Switzerland, in the summer of 1321/1903.

The tafsir is produced with remarkable and practical style of exegesis with modern and simple explanation of the *ayat* (passages), deriving mainly from the classical sunnite exegetes and drive out the differences of *madhahib* (school of fiqh) and difficulties of grammars (*nahu*) as the norm of traditional exegesis. It places important meaning to the texts with significant claim that the ultimate objective (*maqasid*) of the Qur'an is to respond and provide guidance to mankind.

3. *Al-Islam wal Nasraniyyah ma'a al-'Ilm wa'l-Madaniyyah* (Islam and Christianity and their Respective Attitudes towards Learning and Civilization)

This is originally a series of articles which were printed in *al-Manar* in 1901, in response to articles in the magazine *Al-Jami'ah*, by Farah Antun, a Cairo-based journalist. It was an important work that indulged in the discussion of knowledge and civilization and remained the most celebrated defence of Islam against Christianity by Muhammad Abduh. It clarified significant ideas of science and civilization and espoused his aspiration to restore and reclaim the revival and renewal of science and discovery. This work is the most authoritative reference on his scientific outlook and worldview and is an influential work discussing the religious phenomenon and scientific tradition in Islam.

It advanced practical proof of Islam greater tolerance towards other religion and discussed the nature of civilizational clash between Islam and Christianity. It outlined Abduh's religious ideas and his attitude toward learning and philosophy and the dynamic

interaction of religion and culture and its role to reconcile the conflicting force of religion. It is a decisive treatise informing the relation of Islam and Christianity and the extended practice of religious tolerance in Egypt. The basic ideas which is clearly outlined in the work is that the Qur'an and sunnah enjoined scientific discovery and the encounter of ideas and universal engaging with different cultures and religious tradition and this was decisively practiced by the *Sahabah* and *Tabi'in* in the formative years of Islam.

4. *Al-Risalat al-Waridat (Treatise of Mystical Inspirations)*

Risalat al-Waridat fi Sir al-Tajalliyat (first published in Cairo, 1968) is a work dictated by Afghani to Muhammad Abduh when he was in Egypt. It discussed the fundamental philosophy of Islamic sufism and undisputed authority of sufis in the realm of mystical ideas and thoughts. It is an important treatise outlining the mystical ideology and related subjects on logic and ethics and emphasized the need to harmonize the mystical tendencies and fundamental law (shari'ah) in Islam. According to Oliver Scharbrodt, in his magnificent article, *The Satafiyya and Sufism: Muhammad 'Abduh and his Risalat al-Waridat* (Treatise on Mystical Inspirations), *Risalat al-Waridat* was Abduh's first major work in sufism, which relate his sufi origin, spiritual experience and intellectual formation, influenced by his paternal uncle Shaykh Darwish al-Khadir and Sayyid Jamal al-Din al-Afghani and its impact in the projection of his mystical tendencies and decisive religiosity.

5. *Risalat al-Tawhid (The Theology of Unity)*

This work is regarded as the first modern treatise in Islamic theology. Abduh wrote critically of the effects of theological disputation, which he evidently regarded as unnecessary (Mark Sedgwick, 100). Instead he directed the focus on the philosophy of

Islamic prophecy, the mission of the Messenger of God (saw), the fundamental truth of Islamic revelation, the conceptual understanding and discursive ideas on kalam based on the Qur'an and sunnah, and philosophical debate on the nature of tauhid (divine unity). Abduh implicitly promote new variety of exegesis, that of defying taqlid, by refusing to follow a single madhhab, or to be bound by tradition, precedent and custom, and to embark on reading the Qur'an anew, by ignoring prior interpretation.

This is an influential writing of Abduh documenting his interest in classical debate on theological issues such as the free will, moral law, faith and reason and ethics. His views and position on the issues is much inspired by rational tendencies of the Mu'tazilite. The book discussed in detailed the doctrine of *al-tawhid*, the philosophy and dimension of Islamic mysticism, his attacks on popular superstition, and respect for mystics "who have access in part to the ultimate mysteries and true insights into the visionary world." (Muhammad 'Abduh, 1966: 97)

6. *Al-'Urwa al-Wuthqa wa al-Thawrah al-Tahririyah al-Kubra*

The firmest bond (*Al-'Urwa al-Wuthqa*) is a reputed journal published by Abduh and Afghani, in response to British notorious rule in Muslim land. It was first printed in Paris and published consequently in 18 weekly issues, from March 13 to October 17, 1884, propagating revolutionary ideas and anti-colonial sentiment among the Muslim ummah. The journal has been the voice of their secret society also known as *al-'Urwa al-Wuthqa*, aiming for the unity of Muslims and the reform of Islam (Amal N. Ghazal, 2010). The society was founded by Afghani and Abduh and renowned for its reform agenda and splendid project to idealize Islamic unity and received the support of Sultan of Zanzibar

who was particularly attracted to its religious mission “in service of Islamic union”. The journal also criticized the occupation of British colonies in Egypt, and critically addressed the malady and backwardness of the ummah. Its impact was tremendous and dramatic, and was instrumental in the flowering of pan-Islamic movement in the Muslim continent. *Al-Urwa al-Wuthqa* was substantially wrote by Abduh to illuminate anti-imperialist view propagated by Afghani, to encourage reform in Islamic countries, and resist western hegemony, and gaining political supremacy while providing ground for Islamic civilization to flourish.

7. *Al-Manar Journal*

This is an important periodical published by Muhammad Rashid Rida in Egypt to embark on reform initiative with Muhammad Abduh. It offers an exclusive survey of the momentous life of Abduh in the history of Egypt in the early nineteenth century, concentrating on his teachings, works, speeches, ideas, legacy and his reform initiative with an exposition of his principal views on Islam and the political reform unleashed in Egypt. It was an extensive recording of his personal encounter and experience with the society, documenting the key events in his life and offering historical analysis of the remarkable and central position of Abduh in Egypt. The significant of *al-Manar* was explained by Charles C. Adams in his thesis on the profound career of ‘Abduh: “*Al-Manar*, the monthly journal of the ‘Abduh party...contains a wealth of incident and detail concerning events and persons; throws most interesting and valuable sidelights on modern Egyptian history;

reveals inner details of the various intrigues, political or otherwise, in which ‘Abduh was involved, sometimes as author but more frequently as victim.” (Charles Adams, 2010, vii).

8. *Al-Radd ‘ala’ al-Dahriyyin* (translation of al-Afghani’s Persian treatise, *Refutation of the Materialists*—(*Hakikat-i Madhhab-i Naychari wa Bayan-i Hal-i Naychariyan*).

This is a concise work of Afghani (1254-1314/1838 or 39-1897), *Hakikat-I*, first published in Hyderabad, Deccan in 1298/1881, as his response to Sayyid Ahmad Khan’s materialists ideas. Abduh had translated this masterpiece into Arabic and it remains an authoritative reference of Afghani’s most important intellectual work, reflecting his interest in religious polemic against naturalism, and a brief sketch of his political thought and perspective. “*Refutation*” represents Afghani’s persuasive defend of religious orthodoxy, and his original articles on the benefits of philosophy and modern science, his theory of civilization which was influenced by Ibn Khaldun and French historian Guizot, and his interest in political debate and literature. It also established his defense of the Qur’an and his scientific explanation of matters in Islamic theology (kalam) which offers genuine insight into Afghani’s rational worldview. In this work, Afghani elaborated at length religion’s contribution to world civilization and human tradition, and “citing philosophers like Democritus and Darwin, he criticized the naturalist and materialist philosophers for their denial, either directly or indirectly, of the existence of God” (Nikkie Keddie, 1968).

Abduh had been greatly influenced by this treatise, which strongly present Afghani philosophical views and analysis of the nature of faith in human mind and powerfully influence Abduh’s worldview on history, religion, science and human fundamental belief

and their quest for knowledge and progress. Afghani also portrayed his theory of history, ideas on modernity, rationalism and scientific discovery. He stresses that “religious beliefs must be founded upon sound demonstration and valid proof without any supernatural aspect which manifests an essential element of modernity in his thinking. However, this rationalism does not diminish his religious idealism as an integral and fundamental part of humanity’s base of morality, truthfulness and integrity.

Other influential works by Abduh which has been published recently, and which is still scattered in manuscripts form in the Alexandria Library, Egypt, the Library of al-Zahiriyyah Damsyik, and Middle East Manuscript’s storehouse in Leiden includes kitab *Al-Islam wa’l-Radd ‘ala Muntaqidihi* (Cairo, 1327), *Hashiyah ‘ala Sharh al-Dawani li al-‘Aqa’id al-‘Adudiyyah* (Collection of glosses on “The Commentary of al-Dawani on al-‘Adud’s work on the Articles of Belief”), *Sharh Nahj al-Balaghah* (Commentary on “The Peak of Eloquence”), collections of sermons and rhetorics of Caliph ‘Ali ibn Abi Talib (kwj), *Sharh Maqamat Badi’ al-Zaman al-Hamadhani* (Commentary on “The Assemblies of Badi’ al-Zaman al-Hamadhani”), *Tafsir al-Fatiha* (Commentary on the first chapter of the Qur’an, entitled *al-Fatihah*), *Tafsir Surat al-‘Asr* (Commentary on Chapter 103 of the Qur’an, entitled *al-‘Asr* [The Declining Day]), *Sharh Kitab al-Basa’ir al-Nusairiyyah fi ‘ilm al-Mantiq tasnif al-Qadi al-Zahid Zayn al-Din ‘Umar ibn Sahlan al-Sawi* (Commentary on “Results of Reflective Insight in the Science of Logic attributed to Nusair” by al-Qadi Zayn al-din), *Al-Mukhassas*, a work on Arabic philology by Ibn Sidah, in 17 volumes, edited by Muhammad Abduh, *Asrar al-Balaghah* and *Dala’il al-I’jaz* by ‘Abd al-Qahir al-Jurjani, edited by Abduh, *Ikhtilaf al-Qawanin bi-Ikhtilaf Ahwal al-Umam* (Laws Should Change in Accordance with the Conditions of Nations) [*Al-Waqa’i al-Misriyyah*, 1881], *Risalah*

fi Wahdat al-Wujud (Treatise on the Unity of Existence), *Tarikh Isma'il Basha* (History of [the Khedive] Isma'il Pasha), *Falsafat al-Ijtima' wa al-Tarikh* (Philosophy of Society and History), which embodied his lectures on the 'Prolegomena' (*al-Muqaddimah*) of Ibn Khaldun delivered in the *Dar al-'Ulum*, *Nizam al-Tarbiyyah al-Misriyyah*, (The System of Education in Egypt), *Tarikh Asbab al-Thawrah al-'Arabiyyah* (History of the Causes of the 'Arabi Rebellion), *Taqrir Mufti al-Diyar al-Misriyya fi Islah al-Mahakim al-Shar'iyya* (Report by the Chief Mufti on Reform of the Shari'ah Court), which has been recently published and celebrated as an important works in modern times. (C.C. Adams, 271-4)

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Muhammad Abduh's Contributions to Modernity

This chapter analyzed the contributions of Shaykh Muhammad 'Abduh to modernity, and his struggle for change and reform in al-Azhar and Egyptian society. Abduh was hailed as the "first leader of modern thought in Egypt", "the father of the 20th century Muslim thought", "renewer of knowledge and wisdom" and "pioneers of the modernist movement in the Arab world", whose legacy in the history of Islamic reform was significant, carrying dynamic role in the transformation and reinterpretation of Islam in contemporary thought. His contribution to Islamic modernism was clearly seen in liberalized educational system, restructured mufti (jurist consult) office, transformed Islamic worldview, championed Islamic feminism and integrated western and Islamic ideals and tradition.

1. Introduction

This paper discussed Abduh's contribution to modernity and his dynamic influences throughout the Muslim society. It began with brief discussion on the meaning and definition of modernity and modernist Islam with extensive reference to works of several academic authorities in the field. The contributions of Muhammad Abduh to modern Islamic movement was definitive, and his role in the formation of the 20th century Islamic reform was phenomenal and significantly *extra ordinaire*, for "he had inaugurated a new temper of religion and scholarship in Egypt to which 'more than any other single man (he) gave...a centre of gravity and created...a literature inspired by definite ideas of progress within an Islamic framework.'" (H.A.R. Gibb, 1928).

2. The Nature of Modernity

Modernity denotes the renunciation of the past, favoring a new beginning, and a reinterpretation of historical origin. Central to modernity is the emancipation from religion, especially the hegemony of Christianity, and subsequent call for secularization. The idea of modernity has many ramifications in politics, sociology, culture, philosophy, science, and art. The distinction between modernity and modernism, modern, and modernization begin to arise in the nineteenth century (Delanty 2007) with such attempt to define its precise meaning and nature in modern time.

Modernism, in its widest definition, is modern thought, character and practice. Specifically, it describes the modernist movement in the arts, its set of cultural tendencies and associated cultural movements, arising from far-reaching changes to Western societies in the late 19th and early 20th centuries. Modernist movement constitutes radical new direction in approaching art, architecture, music, literature, culture, letters, design, and technology especially in the late 20th century which stress on freedom of expression, experimentation, radicalism and revolutionary concept and ideas. The development of modern industrial societies, the rapid growth of cities and the eruption of World War I, were major factors that shaped modernism. Some experts define modernism as “a socially progressive trend of thought that affirms the power of human beings to create, improve and reshape their environment with the aid of practical experimentation, scientific knowledge or technology” (Bermann 1988, 16).

Modernity, or the modern age, is usually defined as post-traditional, post-medieval historical period (Heidegger 1938, 66-67), marked by the move from feudalism toward

capitalism, industrialization, secularization, rationalization, the nation-state and its constituent institutions and forms of surveillance (Barker 2004, 444). From conceptual understanding, modernity relates to modern era and to modernism, but forms a distinct idea. Whereas the enlightenment refers to specific movement in western philosophy, modernity tends to refer only to social relations associated with the rise of capitalism. Modernity may also refer to certain intellectual cultures, particularly the movement associated with secularization and post-industrial life, such as Marxism, existentialism, and some formal establishment of social science. Modernity has been associated contextually with intellectual movement of 1436-1789 and extending to 1970s or later period (Toulmin 1992, 3-5).

Abdul Rashid Moten, in his article, “modernity, tradition and modernity in tradition in Muslim societies,” explained from historical framework that “modern” refers to the era that began politically with the French revolution and economically with the British industrial revolution” (Abdul Rashid Moten 2011, 1-2). David Smith and Alex Inkeles, in their investigation held that modern generally means “a national state characterized by a complex of traits including urbanization, extensive mechanization, high rate of social mobility and the like.” (David Smith and Alex Inkeles, 1966, 353) John F. Wilson defined “modern” as “a correlative term: it implies what is new as opposed to what is ancient, what is innovative as opposed to what is traditional or handed down” (Wilson 1987, 18). Modern, therefore, must be viewed as a relative term historically (e.g. what one considered to be modern sculpture of architecture in 1900 was much different than the modern expressions of art in 1990) (Berry, 1990, 7). Richard Bendix describe ‘modern society’ as “the social conditions of the present, or of recent times including the present, as contrasted with those of an earlier period” (Richard Bendix 1968, 275). Modern, in one way, is an innovative present age as contrasted to modernization, which is a “programmatic remaking of

the political and economic aspects of society in support of the new” (John Wilson, 10), which shows that the process of modernization remakes or reforms the traditional character of political and economic institutions of a given culture based on the affirmation of new discoveries or innovations. Wilson reserves modernization to politics and economics, and prefer to coin modernism with religious tradition. Peter Berger defined modernization as: “the growth and diffusion of a set of institutions rooted in the transformation of the economy by means of technology”. (Peter Berger 1974, 9).

Many traditionalists consider modernism as potentially pose greater challenge to religious heritage than modernization. Robert Bellah sees modernism as “an explicit and self conscious commitment to the modern in intellectual and cultural matters” (or at least support of the claims of the new as against its critics and detractors). (Robert Bellah 1970, 72-3). According to him, modernism involves a conscientious effort on the part of the participant to enlighten a particular religious tradition by accommodating or adapting to the cultural or intellectual innovations of the day.

Modernism in Christianity refers to the progressive theological thought which developed in the nineteenth and twentieth century. (M.G. Reardon 1987, 14). The work of Christian modernists, such as Alfred Loisy, Ernst Troeltsch, William Bousset and others reflected the progressive spirit of Christian modernist thought since nineteenth century. The same period witness the emergent of Muslim modernists of high standing such as Sir Sayyid Ahmad khan, Ameer Ali, Muhammad Iqbal, Jamal al-Din al-Afghani, Shaykh Muhammad Abduh and Muhammad Rashid Rida.

3. Islamic Modernism

Islamic modernism is fundamentally a religious reform, which “constitutes an attempt to free the religion of Islam from the shackles of a too rigid orthodoxy, and to accomplish reforms which will render it adaptable to the complex demands of modern life. It is inspired and dominated chiefly by theological considerations (Charles C. Adams, 2010).

From this definition, Charles C. Adams sees religious reformism as dominated by theological considerations to free Islam from the rigidity of orthodoxy and showing its adaptability to the demands of modern life. He distinguished Egyptian modernism from the reforms instituted by the Indian group of rationalist reformers, who aim primarily at a cultural movement, and the adjustment of Islam to the conditions of modern European civilization” (Charles C. Adams, 2010).

John L. Esposito gave a riveting account on the aspiration of Islamic modernism. In his important and decisive analysis of political Islam, “Islamic modernists asserted the need to revive the Muslim community through a process of a reinterpretation or reformulation of their Islamic heritage in light of the contemporary world. It is a response to the political, cultural, and scientific challenge of the West and modern life. The modernist attempted to show the compatibility (and thus acceptability) of Islam with modern ideas and institutions, whether they be reason, science and technology, or democracy, constitutionalism and representative government” (Esposito, 1984). According to him, Islamic modernism was a response both to the continued weaknesses and to the external political and religio-cultural threat of colonialism.

The *Oxford Encyclopedia of the Modern Islamic World* defined modernism as the struggle of “Islamic modernists to advocate flexible, continuous reinterpretation of Islam so that Muslims may develop institutions of education, law, and politics suitable to modern condition” (David Commins 1995, 118). R Hrair Dekmejian has distinguished the claim of Islamic modernist and conservatives in which the modernist “seeks to reform and adapt it to contemporary life, while the conservatives cling to the traditional Islamic precepts and reject Western and other influences (R. Hrair Dekmejian 1985, 21). Hisham Sharabi in his brilliant analysis of Islamic modernist favour the force of progress and enlightenment pronounced by the modernist, in which he says: “Modernism is to be understood as a positive attitude toward innovation and change and toward Western civilization generally; while traditionalism is to be viewed as a negative attitude toward all types of innovation and toward the West. Modernism, thus, represents a dynamic outlook, essentially pragmatic and adaptable; while traditionalism is a static position, fundamentally passive and hardly able to react to external stimuli.” (Hisham Sharabi, 1970: 6)

Muslim modernists work to reconcile modern aspiration with Islamic ideals and devise ways to integrate faith with modernity. Fazlur rahman defined Muslim modernists as “those who have made an articulate and conscious effort to reformulate Islamic values and principles in terms of modern thought or to integrate modern thought and institutions with Islam.” (Fazlur Rahman, 1969: 222) Rahman insisted that the value of the Qur’an could be maintained, while adjusting to the challenge of modernity. His definition implies progressive mindset like other Muslim reformists who believe in the superiority of Islam over other religion and struggling in the same track with Muslim modernist to overcome the disparity between meta-Islam (idealism) and historical Islam.

4. Abduh's Views on Modernity

Abduh favorably embrace the ideas of modernity which principally geared to the advancement of Muslim society. The basic foundation of modern ideal proposed by him was largely grounded in rationalism, liberalism, nationalism and universalism of Islam. "Abduh believed the rigid structures of Islamic culture were holding back what was essentially a logical and fluid religion." (Mark Sedgwick 2009, 1)

The practice of Islam is essentially rooted in ontological premise of rational and logical truth and its teaching is lucid and clear for common understanding and comprehension. He crafted essential framework for reform clamoring for change and "advocating a more modern conception of Islam", making significant effort to enlighten classical tradition and ideas. The struggle represents his ground for revival of Islamic ideals in modern society, and the expansion of freedom and the renaissance of political Islam.

Abduh advocated the necessity to accept modernity founded in Islamic construct and civilization, for "it is only as Islam is reformed to agree with modern conditions, it is believed, that its true character as a world religion will be apparent." (C.C. Adams, 204) Abduh's modern ideals and inspirations can be seen from various impacts he made in the field of tafsir, hadith, philosophy, science, *'aqidah* (Islamic theology), traditional ruling and commentary and modern Islamic movement, as clearly mentioned by Muhammad Asad in his explanation of the Qur'an:

"The reader will find in my explanatory notes frequent references to views held by Muhammad 'Abduh (1849-1905). His importance in the context of the modern world of Islam - can never be sufficiently stressed. It may be stated without exaggeration that every single trend in contemporary Islamic thought can be traced back to the influence, direct or indirect, of this most

outstanding of all modern Islamic thinkers. The Qur'an commentary planned and begun by him was interrupted by his death in 1905; it was continued (but unfortunately also left incomplete) by his pupil Rashid Rida under the title *Tafsir al-Manar*, and has been extensively used by me.” (Muhammad Asad 1980, xviii).

Abduh's formidable work in espousing his modernist ideas is *Tafsir al-Manar*, his greatest legacy and contribution in exposing modern and rational interpretation of the Qur'an. Abduh “believed that it was not only possible but imperative to show how “modern” values and institutions could be reconciled with authentically Islamic ideals.” (Charles Kurzman 2002, 3) His inclusivity in taking “more conciliatory and evolutionary approach” (Yvonne Haddad, 32) characterized his worldview and principle outlook of modernism, with strong conviction that adopting the western ideals will liberate the Muslim from stagnation, decadence and backwardness and leading the ways to reap the benefit of science and technology.

5. Modern Reform Movement Inaugurated by ‘Abduh

Muhammad ‘Abduh is the first advocate and pioneer of Islamic reform in Egypt and a great modernist of the 20th century with immense contribution in the revival and reform of Islamic intellectual thought and movement. The principle characteristic of reform movement inaugurated by ‘Abduh was chiefly determined by three individuals, “who are chiefly responsible for this movement”: Jamal al-Din al-Afghani, Muhammad ‘Abduh and Muhammad Rashid Rida.

They have direct influence in the reform plan, and determine to furnish significant and vital influence to realize its objective, sharing the common platform and commitment to: (1) reproduce

the genuine and most characteristic of religious ideas, in its inward and outward form (2) reform the religious conception of Islam and revive the religious practices and beliefs of the Muslims of to-day (3) emphasis upon the direct study and exegesis of the Qur'an rather than the ponderous tomes of theology, in order that faith might be derived from its proper source (4) to bring the dogmas of theology within the comprehension of the common people (5) fight against the bid'ah and corruption of to-day (6) reclaimed the right of independent investigation (*ijtihad*) and went back to first sources and principles in everything. (Haddad, 203)

The idea of reform has been germinated and magnified from his encounter with Europe, and the dynamic influence he received from the leading exponent of Pan Islam, Jamal al-din al-Afghani. (Youssef Michael 1985, 54) Al-Afghani, the revivalist and great reformist from Asadabad, was described as “the Socrates of the (modernist) movement” (Zaki Badawi 1978: 7) and the “Awakener of the East”, seeks to integrate the entire ummah and to revive and crafted the political destiny of Islam.

Abduh was greatly influenced by al-Afghani's profound aspiration, and became his arduous supporter and student, trying to emulate his voice and character, and expanding his effort and struggle. Abduh's world of socio-political activism has broaden his philosophical enquiry to embrace philosophy, theology, law, social and political science and mysticism, which strengthen his resolve to reinterpret classical Islamic text and espoused radical change and reform in al-Azhar. This was partly inspired by the creative and dynamic ideas of al-Afghani, in instilling and proclaiming to his students, “the urgency of resisting European intervention in the life of their country and the importance of seeing the Islamic peoples as one unified community.”(Haddad 2005: 32)

During his campaign in Egypt, India, Sudan, Iran and Istanbul he call for social reform and independent thinking and the dismantling of *taqlid* (blind following) which has been pervasive in the traditional norms of Muslim society. Afghani violently critic the colonial agenda in the East, as stated in his famous and momentous journal, *al-'Urwatul-Wuthqa*: “The English deny the wealth of India to the Indians. They take it as their own simply because the Indians are weaker than themselves.” He also rejected the notion of European supremacy, and the notorious tactic of imperialist to control the sources and wealth of the conquered land, by their deceitful propaganda and machinery: “All the scientific gains and whatever good these (western) nation civilization, if weighed against the wars and sufferings they cause, the scientific gains would undoubtedly prove to be too little and the wars and sufferings too great. Such a progress, civilization and science in this fashion and with these results are undiluted ignorance, sheer barbarism and total savagery. Man in this respect is lower than animal.” (Ana Belen Soage 2008: 1)

6. Abduh's Influence on Other Contemporary Thinkers of Modernity

Abduh's modernist project was aspired to synthesize various trends of thought and espoused the common platform, reconciling the two divide between western and Islamic ideals. His foremost aspiration was to challenge the rigidity and conservative ways of interpreting the text and place special emphasis on the principle of general welfare and social needs of the time. The struggle had monumental impact to the younger Egyptian modernist who were distinctively influenced by 'Abduh's prominence psyche and ideas such as Muhammad Rashid Rida, Mustafa 'Abd al-Raziq and his brother, 'Ali 'Abd al-Raziq who wrote extensively on the Shaykh and his theories, (Aswita Taizir 1994, 2) Muhammad Farid Wajdi, Muhammad Husayn Haikal, Taha Husayn, Qasim Bey Amin, 'Abbas Mahmud al-'Aqqad, Ibrahim 'Abd al-Qadir al-Mazini, Dr.

Mansur Fahmi, and other luminaries. Some influential ulama from the *Manar Party* and the *Azhar Group* also express strong favours and supports for his ideas such as Shaikh Ahmad Abu Khatwah (d. 1906), Shaikh ‘Abd al- Karim Salman and Shaikh Sayyid Wafa, Shaikh Muhammad Khalil, Shaikh Hassunah al-Nawawi (1840-1925), Shaikh Muhammad Bakhit, Shaikh Muhammad Mustafa al-Maraghi, Shaykh al-Sayyid ‘Abd al-Rahim al-Damardash Pasha (1853-1930), Ibrahim Bey al-Lakani (d. 1906), Ibrahim Bey al-Hilbawi, Ibrahim Bey al-Muwailihi (1846-1906), Hifni Bey Nasif (1856-1919), Ahmad Fathi Zaghlul Pasha (1863-1914), Sayyid Mustafa Lutfi al-Manfaluti (1876-1924), Muhammad Hafiz Bey Ibrahim (1873-1932), and many others.

The various support gained from many quarters and rank in Egypt, prove that the atmosphere of reform was strongly felt and the change is imperative and undiminished, confirming that “the ferment of reform generated by ‘Abduh’s influence was at work in various directions.” (C.C. Adams, 2010) The ramification of Abduh’s ideas was pervasive, particularly to young Turk (kaum muda) and the Azharite in Malay and Java land, with decisive and strong influence penetrated among the revivalist such as Kiyai Haji Ahmad Dahlan, Dr Abdul Karim Amrullah (Haji Rasul), Haji Abdul Malik Abdul Karim Amrullah (Hamka), Haji Zainal Abidin Ahmad (Zaaba), Syed Syekh Ahmad al-Hadi, Shaykh Muhammad Tahir Jalaluddin, Muhammad Natsir, Abbas Taha and many generations of young and promising leaders in Malay Archipelago.

7. Abduh’s Contributions to Modernity

Abduh is the founder of Islamic modernism in Egypt, with massive influence in the entire continuum of Islamic world, through his effort to champion the national and religious cause of

modern Arab world. He is a great expositor of Islamic creed and tradition, and major proponent of modernist Islam who geared a major intellectual movement in the 19th and 20th centuries. In this respect, Kenneth Cragg said: “No one will dispute that the story of Egyptian “modernism” is the story of ‘Abduh and his legacy” (Kenneth Cragg, 1957, 149).

Abduh’s work has contributed to the flourishing of religious ideas which he attempted to reconcile from various factions and views of the school of jurisprudence in Islam. Abduh advocate the idea of following the Qur’an and the sunnah, with genuine effort to revive and reinstitute spiritual and religious consciousness. (Zaki Badawi: 4) The penetrating influence of his movement was significant, in defending religious autonomy, resisting European colonial, opposing the prevailing practice of bid’ah, dismantling the conservative and obsolete ways of *taqlid*, advocating the freedom of reason, and uphold the supremacy of intellect, which reflect the rationalist and modernist tendencies of his school of thought. In this regard, Osman Amin hailed him as “the greatest Egyptian religious reformer and one of the most remarkable figures of modern Islamic history.” (Osman Amin, 1957, 165)

The reform movement inaugurated by Shaykh Muhammad Abduh in Egypt had significantly contributed in reforming and liberating the educational system, and reviving the religious ideals and thought. His work and struggle has brought unprecedented change in legal, social, and political structure of Egypt, and help to revitalize modern Islamic aspiration. The modern worldview he projected had significant impact in engineering the force of rational spirit and reviving modern and liberal ideas and contributing to dynamic change in social, cultural, educational, political and religious paradigm of modern Egypt.

The fundamental objective of the movement was the revival of religious consciousness. The motive for revival was to reclaim the genuine spirit of Islam and its harmonious tradition as practiced by the *salaf*. It was to challenge the assumption of impossibility of Islam to afford and complement with modern condition, and proving its compatibility and “harmonization with the most advanced scientific ideas of the present day.”(Adams, Charles, 240) For Abduh, the renewal of Islam and Muslim society could be accomplished not simply based on western secular modernization, but through Islamic legal and social change. His distinguished reform agenda was not only to idealize the glorious past, but also to reinterpret and reformulate Islamic ideals to respond to the political, social and scientific challenges of western secular and modern life. His main struggle was to reconcile the truth of revelation and reason, and this was clearly propounded by his disciple, Syed Syekh al-Hadi in his works, *Kitab Agama Islam dan Akal (Islam and Reason)* and Muhammad Asad, *The Message of the Qur'an*.

7.1 Educational Reform

Abduh's passion for reform had began to develop at Ahmadi Mosque, Tanta and Jami' al-Azhar, Cairo. The encounter with the conservative system of learning inspired him to undertake reform and embark on transforming the obsolete curricula where: “the students were to read texts, their commentaries, the glosses on the commentaries, and the superglosses on the glosses,” (Amin, Uthman 1953, 3) without critical analysis and comprehension. He introduced groundbreaking initiatives to systematize the teaching class, syllabus and method of learning, ready to compete and advance with scientific style of Western education, and to include relevant ethical and moral discipline, science, philosophy, history and other classical literary tradition. Abduh's strategic focus to endeavor and undertake change at al-Azhar institution, was highlighted by Yvonne Haddad in her recent article on Abduh's reform program: “His first experience with

learning by rote, memorizing texts and commentaries and laws for which he was given no tools of understanding, was formative in his later commitment to a thoroughgoing reform of the Egyptian educational system". (Haddad, 31) Shaykh Muhammad Mustafa al-Maraghi described the condition of such unmotivated learning activity: "[Muhammad Abduh] grew up in a lustreless age...he, and others like him, went on studying dull, lifeless rules cut off from their wellsprings in the Qur'an and the canonical writings, shorn of their roots in the language of the Arabs..."(Haddad, 31)

In his letter to his European compatriot, Abduh criticized the educational policy introduced by Egyptian government administered by the British. He tried to embark on reform initiative and transforming the whole structure of curricula, fees, subject, and teaching components and improving basic necessities of schools and teachers. He emphasized the need to uplift the level and standard of al-Azhar University and emphasized the role of British to build a strong and liberal nation of Egypt: "The Egyptian governments spend only two hundred thousand Egyptian pounds on education out of an income of twelve million pounds. It also keeps raising schools fees to the point where education is becoming a luxury that ornaments a few rich homes...There are only three schools for higher education in Egypt: the schools of law, medicine and engineering. The other components of human knowledge are denied to the Egyptian who is only superficially exposed to some of them in secondary schools...The government's plan seems to be first: to assist primary schools where reading and writing are taught. Second: reducing the spread of education in the country as much as possible. Third: limiting secondary and higher education to very narrow circles...I do not see what the British will gain from this. On the contrary it should be in the interest of the British to have a strong and free nation in the Egyptians. The more

wealthy we are, the richer the source they draw upon.”(Khoury, Nabil Abdo 1976, Muhammad Imara 1972, 170-172).

‘Abduh’s primary motive and focus for educational reform was based on his convincing argument that the reform must start from educational structure which radically contrasted from al-Afghani’s political expediency to undertake reform by political mean. In his groundbreaking *risalah* Abduh stated: “politics is meaningless without power (*al-quwwah*), and power is [obtained only] through support (*al-najdah*), there is no support except with unity (*al-wahdah*), and unity is [obtained only] through obedience (*al-ta’ah*), there is no real obedience except with the sound creed [obtained only] through the life of religion (*bi hayat al-din*), and there is no life for the religion except through education (*bi al-ta’lim*).” (Bazli, 2004: 219)

In Syria, Abduh wrote two memoranda, one concerned with schools in Ottoman Empire, and the other with Syria. He articulates and stipulates radical ideas to uplift and enrich Ottoman state and Egyptian nation through reforms in educational systems. According to Abduh: “every zealous Muslim will see that the preservation of the Ottoman state must be the third article of faith, after belief in God and in his Messengers (as). For it alone is the guardian of the sovereignty of religion...the one who thinks that the slogan concerning the fatherland (*watan*), the interest of (one’s) country and such high-sounding terms can replace religion as an incentive to those aims, has deviated” (Al-Tibawi 572). Here ‘Abduh clearly defended undisputed authority of the Caliph and its position as the last bastion of Muslim empire to become the catalyst for development and improvement of religious education.

Abduh had successfully established administrative council for al-Azhar, and became its chairman and strongest voice, which managed to introduce critical subjects such as geometry, geography, arithmetic, and algebra into the University curriculum. Fazlur Rahman, in his analytical survey of Abduh's intellectual contribution to modernity, concluded that the effects of Abduh's contributions were felt only in the fields of reorganization, examination systems, and introduction of new subjects rather than in the contents of the central Islamic sciences, such as theology and philosophy (Fazlur Rahman, 1982: 100), (Albert Hourani, 1988: 154). Severe restriction leveled at him may have caused the impediment to general expansion in his scientific endeavor. After all, Abduh had produced superb commentary on Islamic philosophy and theology based on al-Afghani's greatest works such as *al-Radd 'ala al-Dahriyyin (Refutation of the Materialists)*, *Sharh Nahj al-Balaghah (Commentary on the Peak of Eloquence)* and *Risalat al-Tauhid (The Theology of the Divine Unity)*.

7.2 Gender equality

Abduh was a strong advocate of feminist right. His struggle for the "education of women and reforms on their behalf" (Charles Adams 2010: 232) had significant impact on many great Muslim idealists and reformists such as Zainal Arifin Abbas, (Azyumardi Azra 2002, 184-5) Qasim Amin (1863-1908), Zainal Abidin Ahmad (1895-1973), Syed Sheikh Ahmad al-Hadi (1867-1934), Syekh Muhammad Tahir Jalaluddin (1869-1956) and others. Abduh's principal struggle was to correct "the misconceptions of the status of women among Muslim society" (Zanariah Noor, 2007) and reforming the law relating to Egyptian family life, emancipation of woman, and uplifting their status and right. (Charles Adams, 232) He maintained that "men and women are equal in rights and duties; they are also equal in reason, feelings and sense of self." (Haddad Yvonne, 56) Many influential *fatwa (legal opinion)* issued by Abduh in *Fatawa al-*

Manar (Charles Adams, 205) confirm and strengthen this where “he spoke out strongly for family reform and the rights of women” (Haddad Yvonne, 30), championing issues regarding the status and position of women, and espoused his stand on polygamy’s issues, and propose rulings to enhance the position of women in politics and society.(Zanariah Noor 2007)

Abduh also spoke relentlessly about the nature of Islamic feminism which he distinguished from the Western-style feminism. The genuine framework based on ‘Islamic model’ which he ideally constructed according to the spirit of the Qur’an and sunnah. His struggle to uphold the right of feminist was meticulously propounded by Dr. Ahmad Farouk Musa in his article entitled ‘Feminism through the lens of Islamists’: “It was in the late 19th and early 20th century that the struggle for what is known as feminism started in the Muslim world. And it was from the work of one exceptionally brilliant man that this movement had spread across the Muslim continents and reached the shores of our country. This exceptional man was Muhammad Abduh.” (Farouk Musa, 2011).

Abduh advocates thorough reform in legal sphere which affect the right of Muslim women. He consistently upholds the dignity and equal right of women and man and maintained that polygamy “was only permissible when equal justice and impartiality were guaranteed.” He concluded that considering the impossibility of achieving this, the Qur’anic ideal must be monogamy. This was practically consistent with text highest and ultimate aim to preserve equality and right and was significant moral foundation of the Qur’an which he skillfully articulated in *Tafsir al-Manar*: “God has made the condition that one keep far from injustice to be the basis for His giving of a law (concerning marriage). This confirms the fact that justice is enjoined as a condition and that duty consists in thriving for it. Polygamy is like one of those necessities which

are permitted to the one to whom it is allowed (only) with the stipulation that he act fairly with trustworthiness and that he is immune from injustice. In view of this restriction, when one now considers what corruption results from polygamy in modern times, then one will know for certain that a people cannot be trained so that their remedy lies in polygamy, since, in a family which a single man has two wives; no beneficial situation and no order prevail.”(Farouk, 2011).

7.3 Social and Political Reforms

The main intent of his movement was to bring social reform in the entire gamut of social life in Egypt. Abduh anticipated true internal reform as a means of securing British evacuation. The change has brought significant development in Egypt and open new avenues for many possible reform to take place, which successfully influence entire fabric of society, as mentioned by Charles C. Adams: “The call of Muhammad ‘Abduh received a response from many quarters and affected the life of the country in many directions.” (Adams, Charles, 206) It had profoundly contributed to the revival and reform of Muslim society, creating national consciousness and viable social institution, (Khoury, 154) and stimulates robust development of social groups and parties in Egypt. The movement had monumental impact in propagating and sustaining religious activity, eradicate social problem, advocating women’s rights, uplifting the modern literal revival and classical Arabic language, escalating reform at al-Azhar, advancing the religious and cultural consciousness, establishing schools and welfare groups, founding the society and journals and contributing to the triumphant of ideas and knowledge.

Abduh’s struggle for social reform is highly significant, in theological and social dimension. Abduh’s believe that the Prophet (saw) had founded virtuos ummah, not only plunge in individual salvation. He advocated changes in the way Muslims should act in its society in

relation to the Prophetic (saw) time. He argued that circumstances do changes and some of the present circumstances were not foreseen by the Prophetic's (saw) message. He endeavours to formulate a response to social change taking place under the leadership of Ismail Khedive and to address and bridge the gap between an ideal Islamic society and the current malaise of the ummah.

In national and political reform, Abduh has made significant contribution to defend the political idealism of Nationalist Party and crafted significant agenda for reform and write down its program to Wilfred Blunt. Among the term suggested was: (1) The Nationalist Party would like to preserve its ties with the Sublime Porte, and agrees to assist the Sultan (Khedive) with financial and human resources. The Party, however, will resist any attempt to annex Egypt as a part of the Ottoman state deprived of its independent administration (2) The Party accepts the Khedive's authority as long as his rule is just and in accordance with the Sharia. It also reminds the Khedive to implement the freedom that he promised the Egyptian people (3) This party recognizes the help of the French and the British in reorganizing Egypt's financial affairs and trust the European supervision in these matters will guarantee success in this reorganization. The Party, however, considers European control to be temporary, until Egypt's debts are repaid (4) Egyptians have now become aware of their rights and will insist on achieving their freedom. The Party calls for strengthening the Peoples' Assembly, the freedom of the printed words, and the spread of education (5) The Nationalist Party is a political, not a religious organization. Egyptians of all faiths belong to it, since we consider them all equal before the law. Furthermore, Egyptians are not averse to Europeans living in Egypt, as long as they abide by Egyptian law and pay their taxes (6) This party is determined to reform the country financially and morally. This can only be

achieved through preservation of the law, the spreading of knowledge, and political freedom (Khoury, Nabil Abdo, 159).

This clearly show his pragmatism and strong influence in undertaking reform in many section of political structure including the institution of army, military deployment, non-Egyptian affairs and political direction of Egypt, which constitute greater international and social power in Egypt.

7.4 Reform on the Shari'ah Courts, al-Azhar and Tajdid Agenda

Abduh had clearly initiated legal reform in Egypt by reviewing Islamic law in his capacity as the Chief Mufti of Egypt, and issuing fatwa and judgment based on the fundamental teaching of the Qur'an and sunnah, which he depended heavily on the writings of Ibn Qayyim al-Jawziyyah: "Both Muhammad 'Abduh and Rashid Rida derive the method of their 'fatwas', or legal opinions, from the *I'lam al-muwaqqi'in* of Ibn Qayyim, because he bases his authority upon the text of the Qur'an and the Sunnah." (Charles Adams, 204) 'Abduh also endeavour to endorse the principle of *maslahah al-mursalah*, and *al-talfiq* as the basis of his principle ruling, condemning *taqlid* (blind following) and upheld the principle of *ijtihad* (independent reasoning). He had frequently instructed the judges of the Sharia Court to ground their rule base on the fundamental principle of *maqasid al-shariah* (higher objective of Islamic law). He argued that most of the problems in religious culture come from people who think that Shari'a, in the field of *mu'amalat*, is only words that needed to be memorized without paying attention to their meaning and *maqasid*, and without consideration of the interests of the people and how to establish justice. He consistently works to issuing legal fatwa which embrace the legal precept of every major

school of jurisprudence in Islam, reflecting the dynamism of opinions and genuine spirit of inclusivity and universality.

Abduh's reform principles relatively not attracted to the Azhar or *Shaikh* class of the society compared to his followers from young 'Effendi', the Europeanized section of the population, which drawn from "the higher ranks of the legal profession, from teachers in the higher Government schools and from the heads of Government departments." (Rida, 137) Many of the Azhar-trained professionals who had received some western education openly support his ideas. 'Abduh's monumental contribution in reforming al-Azhar was highly profound, in view of the "unsparing efforts which 'Abduh devoted to the reform of the Azhar and the teaching which he himself did and the lectures which he delivered within its precincts.'" (Charles Adams, 207)

Substantive effort has been made to liberalize al-Azhar from the influence of traditional ulama and conservative element in the schools, and unprecedented revival was significantly achieved with important reform initiative into the administration of the religious curricula, judicial fatwa, publication and basic methodology and training. Abduh also founded the Society for Islamic Propaganda (*Da'wah*) whose drive was shouldered by Shaykh Muhammad Rasyid Rida in his effort to challenge the missionary movement of the Christians.

The enormous contribution of Shaykh Muhammad Abduh to modern Islamic thought can be summarized from his mission espoused in the influential newspaper, *al-'Urwa al-Wuthqa*, an important based where he projected revolutionary attempt to initiate reform and reclaim the religious tradition with clear vision to (1) identifying ways in which to rectify the problems of the past which had led to decline; (2) infusing Muslims with a hope of victory and eradication of

despair; (3) calling to steadfastness in adherence to the principles of the fathers and forebears; (4) defending against the accusation levied against Muslim that they cannot progress as long as they adhere to the principles of Islam (5) providing information on important political events; and (6) enhancing relations between nations and improving public welfare. This important initiative to undertake reform and defending modernism had a resounding impact on society, and Abduh's work "continues to be influential both on his disciples and on those who thought that his compromises with the West went too far." (Haddad, Yvonne, 30-32).

8. Conclusion

Abduh's contributions to modernity had a forceful impact in restoring conventional religious principles of rationalism. Undoubtedly, he had undertaken significant reform initiatives, and made fundamental contributions in founding modern Islamic movements and projecting scientific renaissance in the Muslim world. The modern reform movement inaugurated by him had momentous contributions in reforming educational system, restored the role of *ijtihad*, reclaimed the intellectual dexterity and uplifted the modern Islamic worldview. The foundational aspect of his works had been seen in his struggle to synthesize Islamic and western ideals, in his legal reform, his defense of rational and religious liberty and empowering women. His struggle resulted in an unprecedented scale of reform in social, political and economic systems in the Muslim world and the successful breakthrough of educational models in al-Azhar. His school of thought, the renowned *Madrasah Shaykh Muhammad Abduh* had successful impact in projecting the revival of ideas and tradition and continues to effect change in the Muslim world especially in Africa and South East Asia.

The Idea of Science and Technology: an Exposition of Muhammad Abduh's Worldview

This chapter highlighted the prominence of Muhammad 'Abduh in science and technology and his contributions in developing scientific methodologies and principles. It discovered his ideas on science, technology, reason, revelation and rationality. It is important to note that Abduh's intention was to espouse universal framework of Islamic science. His scientific ideas were clearly presented in his works such as *Tafsir Juz 'Amma*, (Commentaries of *Juz 'Amma*) *Tafsir al-Manar* (*Al-Manar* Commentaries) and his masterpieces *Al-Islam wa al-Nasraniyyah ma'a al-Ilm wa al-Madaniyyah* (Islam and Christianity in Relation to Science and Civilization) and *Risalat al-Tawhid* (The Theology of Unity). This worldview was projected fundamentally and centered on his effort to harmonize reason and revelation and finding new ground for Islamic science to be revived and revitalized. Many argue that his contributions to Islamic science were monumental in recognizing the dynamic interaction of revelation and reason and bringing progressive and rational understanding of the scripture which successfully accommodated the power of intellect and reason in modern times.

1. Introduction

The impact of science and technology in modern times has expanded with greatest impact to contemporary society. The greatest works of science were produced by Muslim scholars in medieval times contributed to vigorous scientific progress with stunned creativity and discovery in various branches of scientific fields. The glorious times of al-Andalus has produced precise and powerful tradition of scientific enterprise and genuine achievements of knowledge and ideas. This paper analyzed the historical foundation of science and technology, its origin and basic structures and its relation to Islamic worldview. It further analyzed the contribution of Shaykh Muhammad Abduh, and his role in gearing scientific breakthrough in al-Azhar and the Arab world at large, and the proliferation of science and technology in the Muslim world, contributing to scientific advance and revitalizing the aspirations and monumental project of Islamization of science in contemporary times.

2. The Nature of Science

The term 'science' is derived from latin verb '*scire*' meaning 'to know' (Neufeldt, 1994). From this verb it formed the noun '*scientia*' which later developed as 'science'. Science has a long defined history from the time of classical Greek to the renaissance of scientific era in medieval Islam. The history of science is usually viewed as the progressive accumulation of techniques and the refinement of quantitative methods in the study of nature (Seyyed Hossein Nasr, 1968). In his classical work on the ranks of the sciences (*Maratib al-'Ilm*), Ibn Hazm classified science in his time to seven divisions.

He says: “the sciences (*al-‘ulum*) prevailing today are divided into seven divisions among all nations, in all places and at all times. These are: the religious law (*‘ilm shari‘ah*) of every nation (*ummah*) for every nation must have some doctrines, whether they are established truths (*athbat*) of falsehoods (*abtal*), and the science of the annals (*akhbar*) of a nation and the science of its language (*lughah*). Nations are distinctive with respect to these three sciences. As for the remaining four sciences they are common to all nations, and these are: philosophy (*al-falsafah*),...metaphysics (*ilahiyyah*), astronomy (*al-hay‘ah*) and medicine (*al-tibb*)” (Chejne, 1982). Science is defined as a body of knowledge and a system of analysis and research. It is a systematic enterprise that builds and organizes knowledge in the form of testable explanations and predictions about the universe (J.L. Heilbron, 2003). Science also can be formulated as “a process for man to obtain knowledge.” (Nik Mustapha, 2003, 164).

Modern science is a discovery as well as invention, with essential features and characters such as rational, universal, objective, tangible, and empirical. Scientific knowledge thus rests on the bedrock of empirical testability. The main function of science is to establish scientific laws and theories in an effort to explain, predict, understand and control a particular natural phenomenon (Hunt, 1991). The main field of science includes geography, physics, mathematics, chemistry, botany, biology, zoology, geology, mineralogy, economics, law, sociology and philosophy (John Obert Voll, n.d.), (Mawdudi, n.d.).

3.Science in Islam

Islamic science referred to those sciences developed by Muslims from the second Islamic

century onward. Traditional Islamic science was an independent way of studying the nature of phenomena, causality, the relationship between various forms of objects from minerals to plants to animals, the meaning of change and development in the world of nature and the final end and goal of nature. (Seyyed Hossein Nasr, 1993). According to Golshani, Islamic science is a “science that is framed within an Islamic worldview and whose main characteristics are that it considers Allah as the Creator and Sustainer of the universe, does not limit the universe to the material world...and accepts a moral order for the universe.” (Golshani, 2000). Zaghlul al-Najjar define Islamic science as “knowledge gained through divine revelation, by human thinking, creative intellect and through human legacy and tradition”. (al-Najjar, R. Zaghlul, 1981). In studying the distinctive aspect of Islamic science Hossein Nasr compare the secular and Islamic construct of science and explain that “Islamic sciences always relate to the existence of God and His authoritative power, whereas for the modern sciences, God is irrelevant to sciences.” (Nasr, 1981: 13). Islamic science was characterized by unity, harmony, reality and hierarchy.

Islam encouraged the pursuit of knowledge and science, and this was clearly illustrated by almost 750 verses in the Qur'an, (about one-eighth of the Qur'an) exhorting the believers to study nature (Ishfaq Ahmad, 2003). Many verses in the Qur'an instigated human mind to ponder, reflect, think and make sense of the world and the universe and to explore and investigate natural world from atoms to galaxies. Studying science is considered an act of worship, and obedience to God's command to seek knowledge and wisdom. (Khalid A.S. al-Khateeb, n.d.).

4.The Rise of Science in Medieval Islam

The advancement of Islamic science flourished during the Abbasid reign in Baghdad with phenomenal achievement in scientific enterprise making its greatest contribution to the construction of Muslim civilization. The time of Umayyad and Abbasid rule in Baghdad and al-Andalus saw the thriving of culture and scientific works unmatched in its creativity, genuinity and universality and profoundly impact the dynamic life of medieval world. This was accentuated by Prof. A. Mottaleb in his important remark on the interaction of culture and knowledge: “(with) the rise of Islam, one of the wonders of the world brought fundamental changes in faith, philosophy, politics, economics, arts and above all science and everything that is needed for civilized living for which there is no second example on earth. The wisdom of the other people were taken and the man educated in previous traditions when became Muslim used their formal learning with the Qur’anic philosophy. Their contributions went into the general stream of Islamic thought and thus an autonomous Islamic culture and science took shape.” (Mottaleb, n.d.)

Medieval time is undoubtedly the glorious century of Islam where massive works of Greek philosophy was translated and analyzed. This monumental effort has been instrumental in the thriving of ideas and proliferation of technology in Islamic world, as clearly assented by Sarton in his analysis of formidable history of Islam and its classical works: “During the reign of Caliph al-Ma’mun (813-33 A.D.), the new learning reached its climax. The monarch created in Baghdad a regular school for translation. It was equipped with a library, one the translators there was Hunayn ibn Ishaq (909-77), a particularly gifted philosopher and physician of wide erudition.” (Sarton, 1931).

The scientific works of Muslim scholars had profoundly influenced the modern world and making great stride to scientific renaissance in Europe as mentioned by Robert Briffault: “It was under the influence of the Arabs and Moorish revival of culture and not in the 15th century, that a real renaissance took place. Spain, not Italy, was the cradle of the rebirth of Europe...it had reached the darkest depths of ignorance and degradation...when cities of the Saracenic world, Baghdad, Cairo, Cordova, and Toledo, were growing centers of civilization and intellectual activity.” (Briffault, 1928). The decisive influence of Islamic culture has been instrumental for the thriving of dynamic ideas and the making of greatest innovation and progress and the development of Islamic science. The technological advance and powerful discovery of Muslim scholars had lasting influence on the development of modern technology and contemporary science. Magnificent works in sciences has brought scientific and technological prowess to Muslim world with stunning contribution in empirical discovery and scientific experiment. Muslim scholars have produced classical and masterful work in nearly every branch of knowledge which surpassed its times in its creativity and originality in very broad disciplines. The work undertaken by these scholars ignited the scientific renaissance in the west and the transferring of ideas and civilization of Islam to Europe. According to Briffault: “The experimental method of Arabs was by (Roger) Bacon’s time widespread and eagerly cultivated throughout Europe. Science is the most momentous contribution of Arab civilization to the modern world...which constitutes the permanent distinctive force of the modern world, and supreme source of its victory, natural science and the scientific spirit” (Briffault, 1928).

Medieval Islam made genuine contribution to world civilization by producing brilliant scientist and scholars of Islam such as al-Biruni, al-Kindi, al-Khawarizmi, al-Farghani, al-Razi,

Thabit ibn Qurra, Jabir ibn Hayyan, al-Idrisi, al-Battani, Hunayn ibn Ishaq, Ibrahim ibn Sinan, al-Jazari, al-Farabi, al-Zahrawi, al-Mas'udi, Ibn Sina, al-Tabari, Abul Wafa, Ali ibn Abbas, Ibn Yunus, al-Kashi, ibn al-Haitham, Ali ibn Isa al-Ghazali, al-Zarqab, and Omar Khayyam whose works was strikingly genuine and was hailed as the principal reference in the west for centuries, and this was clearly mentioned by Prof Seyyed Hossein Nasr in his works, *Science and Civilization in Islam*: “The Muslims...whose strange bent for the “subtleties” of algebra and logic somehow enabled them to become the transmitters of Greek learning to the West...a culture whose spiritual values are inextricably tied up with mathematics and with metaphysics of a high order, and which once again fused the constituent elements of Greek science into a powerful unitary conception, which had an essential influence on the Western world up to the time of the Renaissance.”(Nasr, 1968)

In this exposition, Seyyed Hossein Nasr has established the foundation of Islamic science and technology which is based on tawhid and knowledge. The impact of Islamic world to the West and European science was profound, and it was the great learning of Muslims in science and technology that has produced the civilization of knowledge in the entire world. The Arabic-Islamic science has solidly flowered and matured during the eight century Umayyad rule and establish the greatest culture and civilization in al-Andalus. Nasr says: “it is those very elements of the Islamic sciences, most responsible for providing the tools with which the West began the study of the already secularized nature of the seventeenth century, that became secondary in the Islamic world itself and had already ceased to occupy the main intellectual efforts of that civilization by the ninth/ fifteenth century.” (Nasr, 1968).

George Sarton, a reputed scholar in medieval history, distinctively hailed this magnificent achievement of Muslim scholars in his work, where he claimed: “it will suffice here to evoke a few glorious names without contemporary equivalents in the West: Jabir Ibn Hayyan, al-Kindi, al-Khawarizmi...a magnificent array of names which would not be difficult to extend. If anyone tells you that the middle ages were scientifically sterile, just quote these men to him, all of whom flourished within a short period, 750-1100 AD.” (Sarton, 1931).

5. Decline of Islamic Science

The decline of Islamic science occurred after sixteenth century due to many internal and external factors which affect its stagnation and sterile, especially the high handed action of “suppressing even the genuine use of all rational tools of development, the stagnancy and closure of the doors of rational and analytical genius of Muslim scholars and scientists.” (Dilnawaz Siddiqui, 2005). Other factors contributed to the decline in science and technology is internal faction and clash between Mu'tazilites and Asha'arites, the siege of Baghdad by Mongols in 1258, expulsion from Spain in 1492 and the end of Caliphate in 1922, and the march of foreign ideology such as communism, capitalism and colonialism. The decline of Muslim empire in the late Abbasid, was lamented by al-Mas'udi in his great travelogue, *Muruj al-Dhahab (The Meadows of Gold)*: “the same accord in recognizing that all traces of science have vanished and that its splendor is spent; learning has become too general and has lost its depth, and one no longer sees any but people filled with vanity and ignorance, imperfect scholars who are content with superficial ideas and do not recognized the truth.” (Mas'udi, 2007).

Since the reformation era in Europe, Muslim has continuously failed to regain passed glory

and to restore the dynamic role and recover their mighty power at the global stage. With the transfer of Islamic science to the west the secular world developed monumental feat in scientific work ignited the thriving of renaissance and the flourishing of scientific revolution and advancement in Europe. This modern progress of the west in science and technology was gained from the transfer of Islamic civilization to the west where the scientific and technological based in the Muslim world has completely lost and defeated. According to Briffault: “it is highly probable that but for the Arabs, modern European civilization would never have arisen at all; it is absolutely certain that but for them, it would not have assumed that character which has enabled it to transcend all previous phases of evolution.” (Briffault, 1928)

To reclaim the superior position and power, Muslim should embrace the critical ideas of science and the technology they once developed and synthesis it with current development in the West. Development of science must be based on the holistic teaching of Islam and its true character which invite genuine speculation and rational thinking (*nazar, fikr*), contemplating on the status of man as creation of God, for “all development efforts which do not take into account man’s status and obligations as the servant of Allah are bound to fail, with great consequences in this world and in al-akhirah.” (Muhammad Kamal Hassan, 1982).

The need to regain scientific and technological prowess was crucial in modern times, which according to Prof. Dr. Kamal Hassan, was timely because “Muslim must reclaim and recapture the dynamic and scientific achievement of past scholars, in order to restore its position and mastery over every branches of knowledge.” (Muhammad Kamal Hassan, 1985).

Muslim ummah must have a strong position in the modern civilization and technological world. The truth that emerged from scientific discovery must be pursued and encouraged, and this was aptly idealized by Abdul Karim Soroush in his book, *Reason, Freedom and Democracy in Islam*: “Truths everywhere are compatible; no truth clashes with any other truth. They are all the inhabitants of the same mansion and the stars of the same constellation. One truth in one corner of the world has to be harmonious and compatible with all truths elsewhere, or else it is not a truth.” (Abdol Karim Soroush, 2001).

6. Rise of Modern Science

After the age of enlightenment in Europe, science has been developed as the cornerstone of modern society and cherished as the bedrock of civilization. The rise of modern science began to take place in the fourteenth to eighteenth centuries A.D. rooted back from the rise of Europe in the age of enlightenment. The enormous contribution of modern science has produced unprecedented ideas and cultural vigor projecting for new scientific worldview with great ramification which still reverberate and resonates throughout the world. The triumph of modern science was defended and justified by most of Christian Arab thinkers as being illuminated in periodicals such as *al-Hilal* and *al-Muqtataf* (1860 – 1900 edition) (Charles D. Smith, 1983). According to Butterfield, scientific revolution that began around 1300 “outshines everything since the rise of Christianity and reduces the renaissance and the reformation to the rank of mere episodes, mere internal displacements, within the system of Medieval Christendom” (Butterfield, 1958).

In modern times, science makes profound influence in nearly every branches of knowledge

and in every single direction of life. Muslim has been benefiting conclusively from the advancement of science since classical times, and they need to appreciate the contribution of science and technology to contemporary life. The scientific discovery was instrumental in the progress of modern orientation towards scientific life. Modern science placed great emphasis on the idea of reason and objectivity, faith and civilization, metaphysics, epistemology and empirical studies of nature and producing unique synthesis of religion and philosophy which placed great emphasis on scientific methodology, and the importance of systematic observation, experimentation and theory building. Later half of the nineteenth century saw the resurgence of Islam in the new century and the march of science and technology in the Muslim world and the rise of Muslim modernists advocating modern aspiration and the acceptance of modern science such as Sayyid Ahmad Khan (1817-1898), Jamal al-Din al-Afghani, Muhammad Abduh, Rashid Rida, Taha Hussayn, Muhammad Husayn Haykal, and Qasim Amin. Their political and literary influence was enormous, seeking to liberate Muslim from rigidity and making universal and inclusive appeal to merge with modern science and knowledge.

There is clashes of ideas between the necessity to learn and identified the secular knowledge and to discard every element propagated by the west. In his profound analysis of the catastrophes of modern science Seyyed Hussin Nasr says: "Modern science wants to study the whole of creation while abstracting the Divine Principle from it. Of course, modern science is now breaking up and we might have another paradigm in the future, but the paradigm that has dominated from the seventeenth century until now is one in which the effect is studied without the Supreme Cause. No matter how much you study the cosmos you never run into the Supreme Cause because it is excluded by definition from the modern scientific view...you end up with the

secularization of knowledge, which leads to the catastrophes which humanity is faced with today.” (Seyyed Hossein Nasr, 1968). Hunt has formulated four features which characterized modern science, (1) rapid growth of knowledge, (2) growth of knowledge across many different areas, including medicine, biology, anatomy, electricity, mechanics, astronomy, (3) scientists built upon the works of their predecessors rather than starting from scratch (4) knowledge built through critical discussion based on logic and observation (Hunt, 1991). The formulation crafted by Hunt reflected the time when scientific explosion was at its zenith in the Muslim world.

7. Technology in Islam

The word technology is derived from Greek *techne* meaning art or craft, and it encompasses an enormous range of human activities. It consciously intended to improve the quality of human life in the material realm. Technology also blends into science, which oriented toward the betterment of life, and the custom and folklore in human practices that are grounded in conscious efforts to improve the quality of life. Technology has little direct connections with Islam as a religion, compared to scientific endeavors, which has sometimes directly relate to Islamic doctrines. “Islamic technology” is defines as the set of arts and crafts that impart a distinctive atmosphere to the predominantly Muslim societies of the Middle East and North Africa. (Karen Pinto, n.d.) Technologies have contributed strongly to qualities of life in the pre modern and post modern Islamic world. Technological advance in Muslim world have exposed them to culture, philosophies, religious, political and economic relationship with other nation and community. The transfer of Islamic technology to the West, in the sixteenth century, is the turning point of the decline in scientific undertaking in Islamic engineering and chemical industries.

Technology is part and parcel of Islamic ideals, referring to the verses “God taught man all what man knows,” which include science and technology (Khalid al-Khateeb, n.d.). In his analysis of Islamic technology, Professor Khalid A. S. al-Khateeb justify his finding on the need of Muslim world to utilize technological instrument and scientific apparatus by emphasizing the need to develop human resource in science and technology to face the challenge of globalization: “From an Islamic point of view; if the aim is to build a world civilization based on moral values, such that globalization is ‘human oriented’, it is a good thing. But if it is ‘profit oriented’ aimed at propagating western values, which are based on the supremacy of the European race, the Muslim ummah must proceed carefully. Concerted efforts and calculated steps should be taken towards the development of human resources in science and technology.” (Khalid al-Khateeb, n.d.: iv). Maryam Jameelah in her work claims that “science and technology are totally dependent upon the set of ideals and values cherished by its members.” (Maryam Jameelah, 1983: 8), hence pious society whose life rooted in strong religious and ethical conviction could have crafted its scientific and technological endeavor in line with religious precept.

8. Abduh’s Philosophy of Science

Abduh’s categorically supported the pillars of science and the rational foundation of religion. He speaks of intellectual basis of science and religion which embrace reason (*‘aql*), revelation (*wahy*), knowledge (*‘ilm*), rationalism and justice (*al-‘adl*). Abduh sees no bifurcation between religion and reason and emphatically maintain that science is a friend of religion and they do not come into conflict. This was clearly espoused by Einstein: “religion without science is blind,

science without religion is lame.” Abduh insists on transformative approach towards religion especially on certain aspects that fall into the realms of *al-mutaghaiyyirat* (the changing), which demand for perceptive and rational thinking to be endorsed. He distinguished between the immutable (*al-thawabit*) and the changing (*al-mutaghaiyyirat*), the principles and the models, which advocate the essence of absolute and eternal principles of shariah and the realities and specific requirements and conditions of the Muslim ummah. The underlying principle of his ideas is to galvanize the forces of science and freedom and undertake dynamic reform in religion and civilization to adequately answer contemporary challenges.

Abduh’s rationalism was substantively influenced by Afghani who publicly championed western science in a major way. He undertakes reform that would transform the society and open the ways for the mind and ideas to be flourished and advocating the free spirit of rational inquiry. In pursuing the reform agenda, he devises a system between faith and modernity and made a synthesis between modern ideas and religious tradition to prove the viability of Islam’s prescriptions in the modern age. He positively advocates the principles of justice, equality, rights and liberty and the need to produce dynamic society, and productive civilization capable of meeting the challenge of modernity.

The rational philosophy he advocates was based on the premises that no differences exist between science and religion, and that both science and religion are rooted in reason, and that the Qur’an urges man to use his reason (Livingston, 1995). According to him, reason is Islam’s strongest support, and Muslim must recapture the substance, spirit and objectives of the shariah and genuinely realized its practice to modern principle of *mu’amalah* (social affairs). Abduh has

grounded dynamic Islamic theology in his work *Risalat al-Tauhid (The Theology of Unity)* which comes parallel to reformist thought of al-Afghani, and through which he attempt to reconcile between conscience and science, uphold the supremacy of religion, emphasizing the need of *ijtihad* (independent thinking) in pursuing his reform agenda, reforming and adapting Islam's ethical and legal percept to the practice of modernity, promoting rational thinking and advancing the cause of science and technology in modern life, and encouraging rationality, creativity and integration of science and religion. He takes an ecumenical and balance position in his struggle to accommodate science with religion, in contrast with the radicals and secularists, who uncritically adopt western norms and assimilate absolute modernity and "pursued science and modernization strongly without any particular regard to religion" (Gibb, 1952).

Abduh's rational theory was fundamentally based on the *tawhidic* pillar and firm religious ground and principle by which he insists that is imperative for Islamic science to build new dimension of universal ethics and values of Islamic world views and cultures in shaping the scientific philosophy of Islamic science. Abduh insists that the means of development must be acquired through knowledge (Muhammad Imara, 1972). This comprehensive philosophy of science clearly accommodates reason and rational thinking as part of his philosophy of Islamic science.

Abduh tried to bring scientific views and modern ideas in his interpretation of the text, while reviving the spirit of *ijtihad*, and reconciling Islamic ideas with western thought, suggesting ideas like *maslaha* (interest) in Islamic thought corresponded to *manfa'ah* (utility) in western ideals, equated the system of *shura* with democracy, and *ijma'* with consensus. According to

him: “the concept of *ijtihad* should be revived, emerging priorities and problems, which are new to the Islamic thought, need to be addressed.” (Fadzli Adam, 2003).

His method of thinking consists of literal and contextual comprehension of the text with definitive focus on rational understanding of the text, as indicated by Malcolm Kerr in his study of Abduh political ideas: “One of ‘Abduh’s most constantly stressed themes in his theological and apologetic writings is the essential harmony of reason, revelation and individual moral temperament.” (Malcolm H. Kerr, 1966). According to him, the basic foundation of religion is rationality and its guiding idea is freedom and conviction. In his *Risalah al-Tawhid* he mentioned that: “The Muslims are agreed that if religion can reveal certain things to us that exceed our comprehension, it cannot teach us anything that is in contradiction with our reason” (Kenneth Cragg, 1966).

Abduh certainly condemned the rigidity and blind acceptance of religious authority (*taqlid*) and call for fresh interpretation and independence investigation of the text, dismantling and debunked prior interpretation and obsolete tradition. He argue that certain problems of rigidity (*jumud*) was due to accumulated custom and habit of superimposed on true moral instinct (*al-wijdan al-sadiq*), artificially raising numerous conflict with reason. There is no antagonism between the two so long as moral instinct is freely expressed and reasons stay within its proper bound (Malcom H. Kerr, 1966). He clarified that: “Complete religion is knowledge and taste, heart and mind, evidence and acknowledgement, thought and temperament. Wherever there appears to be conflict between reason and temperament it is only because what is thought to be one or the other is really something” (Abduh, *Al-Islam wa’l Nasraniyya*, Malcom H. Kerr,

1966).

Abduh categorically supported the doctrine that science is the twin of religion, encouraging the spirit of enquiry and cultivating religious sciences and techniques based on the power of reason and intellectual freedom: "I spoke on behalf of two great causes. The first of these was the liberation of thought from the chains of imitation and the understanding of religious faith as the members of the early community understood it before dissension arose, and the return of religious learning to its original sources, and consideration of religion in the scales of human intelligence that God created to repel the excesses of faith and diminish its errors and stumbling, so that the human social order prescribed by God in his wisdom may be attained. In this way religion may be counted the true friend of science, a stimulus for enquiry into the secrets of the universe, and an appeal to respect established truths and rely upon them in cultivating our spirits and reforming our actions. Secondly, I have considered to be a single matter. In appealing on its behalf I found myself in opposition to the views of the two great groups of which the community is composed: the devotees of the religious sciences and others of their type and the devotees of modern techniques and their partisans." (Rida, *Tarikh*, Malcom H. Kerr, 1966).

Abduh had positive views on science which he convincingly says that: "Science was a way of life rooted in freedom and progress; in its pure form, science, when properly married to religion, brings society to fulfillment. Without freedom, science cannot exist, quite as without justice, freedom and progress cannot exist. Freedom implies justice as science implies freedom (Abduh, *Al-Ahram*, 1880, John W. Livingston, 1995). For Abduh, science has close relation with reason (*'aql*), and religion with moral consciousness (*wijdan*). Both give fulfillment to the human being

in that they are mutually complementary. They will never oppose or contradict each other, and they are one in the human soul. He consistently mentioned that “both science and religion are rooted in reason, and that the Qur’an urges man to use his reason (John W. Livingston, 1995). Abduh’s scientific ideas found resonance in the works of scholars like Ibn Khaldun as clearly seen from his writing in *Al-Ahram*, which parallel to Ibn Khaldun’s view, that: “Justice is the only soil in which science can take root. Science implies economic prosperity, cultural efflorescence.” (John W. Livingston, 1995).

Abduh’s writing has been instrumental in uncovering the nature of science and the workings of the cosmos, natural law, and bringing scientific and technological advances to the Muslim world. This was accentuated and justified by Said Nursi in his *Damascus Sermon* and *Risale-i Nur*: “that science’s breathtaking discoveries of the universe’s functioning corroborate and reinforce the truths of religion.” “therefore, in the future when reason, science and technology prevail, of a certainty that will be a time the Qur’an will gain ascendancy, which relies on rational proofs and invites the reason to confirm its pronouncements.” (Bediuzzaman Said Nursi, 1996).

9. Abduh’s Contributions to Science and Technology

Abduh’s enormous contribution to science and technology can be gauged from his pragmatic view on the essence of scientific education, in which he says: “without the spread of education in modern sciences, that nation will be far behind other nations leaving, both identity and welfare

in danger of disintegration” (Khoury, 1976). One aspect of his contribution is harmonizing science with revealed scripture. ‘Abduh’s immense contribution to science can be deciphered from his major accomplishment and excellence achievement in science and philosophy throughout his career. He attempted to synthesize knowledge acquired through rational human efforts and through the Qur’an which is seen as complementary to each other. For him, both are ‘signs of God’ that enable humanity to study and understand nature and insisted on the co-existence on science and revelation. Abduh combined naturalist and traditionalist approach in his movement which emphasized on conviction with respect to faith and scripture. With historical Islam thus marginalized, Abduh embarked on reinterpreting the Qur’an in the light of modern science, and the argument of reason, as fundamental criterion to prove the contemporary relevance of Islam as religion of ease, tolerance and conforming to the condition of human life. (Aziz al-Azmeh, 1996). This was consolidated by Maurice Bucaille in his study of modern science and the Qur’an that: “the relationship between the Qur’an and science...turns out to be one of harmony and not of discord (Bucaille, 1989).

Another aspect was Abduh’s courageous effort to introduce scientific subjects in al-Azhar and schools in Egypt which had a primary impact on scores of scholars in Egypt and raised the status of science, which also stimulated the proliferation of science and scientific learning in the Muslim world. Abduh often backed his appeal for scientific education on ground of religious virtues, which place special important on knowledge for the appreciation and observance of God’s message (Khoury, 1976). The drive and fortitude for reform has motivated many young modernist to support his creative ideals, such as Ali Abdul Raziq in Egypt and Sir Sayyid Ahmad Khan in India who proclaimed the need to adapt secular and western science: “Let the

Muslims study western knowledge and modern science, as what their forefathers did to Greek philosophy” (Sayyid Ahmad Khan, 1967: 97). The principle aim of Muhammad Abduh in introducing scientific subjects was to inculcate scientific worldviews, liberalizing ideas, and finding pragmatic approach to learning. His effort and pronouncement has been followed by Taha Husayn who criticize the obsolete tradition of al-Azhar institution: “al-Azhar will fail unless the culture that it propagates throughout the Islamic world is attuned to the personality of the modern Muslim moulded nowadays by secular education and modern life” (Taha Husayn, 1954).

The third aspect could be said, Abduh’s scholastic views of placing reason on superior position as well as highlighting the importance of logic and *ijtihad* in religious pursuit, and maintaining that religion should be approach with logic and proof (Khoury, 1976). This position was illustrated by Malcolm Kerr in his study of Abduh’s reform initiative: “thus reason can discover the existence of God and identify His most important qualities, but cannot determine the correct forms of worship; revelation prescribed all the details of the law of inheritance, but omits mention of the details of governmental organization.” (Malcolm Kerr, 1976). The supremacy of science and reason was asserted in many occasions in his works. In the compilation of his work (*A’mal Kamilah*) he insisted that “in Islam, it is reason that is addressed” (Ammarah, 1972). His approach to the study of nature attempted to synthesis reason and revelation, and knowledge and values. In his article on “philosophy and the call for modern science” Abduh expressed his astonishment on Muslims who refused to teach logic: “If this is our attitude towards such subjects...I dread to think of how we regard the new sciences which have become everyday necessities and the bases of happiness, wealth and power in our modern era...we must go about

acquiring these things in the proper manner following the lead of those of our own people who would have us be cognizant of our need for those sciences and of the danger of our ignoring them.” (Ammarah, 1972). His ideas found resonance in the scores of modern scholars who proclaim the same magnitude of thought, highlighting Islam as a religion of reason and nature, and the fundamental importance of logic as wisdom (*hikmah*) bestowed by God indispensable for scientific thinking. The doctrine he preached and the worldview he projected find resonance in the word of Jose Rizal, the great martyr and humanist par excellence who says: “humanity will not be redeemed while reason is not free” and Shah Waliyullah (1702-1763) who asserted that religion when backed by reason carries conviction and fortifies wavering faith (Nik Mustapha, 2003).

Apart from the aforementioned, Abduh, endeavored to Islamized science and technology, by attempting to construct and craft an Islamic framework of science by focusing the role of reason and intellect in Islam. He managed to justify legitimacy of science and technology and rectify the framework of science from Islamic perspective. He defended the role of science in enabling reform of social life and synthesized the concept and understanding of science with the genuine ground of framework of Islamic science and technology. His effort to Islamized foreign science and restructure it to suit Islamic ideals was perfectly stated by Khoury Abdo: “The most important issue that concerned Abduh is the reinstatement of Islamic values”. (Khoury, 1976).

10. Conclusion

This chapter brought four new understanding and exploration of Abduh’s scientific views which; he professed with strong idealism advocating harmonizing and synthesis science with

scripture. The fundamental ideas he brought are the unbending relation of science, freedom and revelation, which is paramount for scientific enterprise to flourish and thrive. The scientific ideas developed were crafted within the framework of Islamic and scientific tradition, which clearly resolved to effect change and reform in the Muslim land. He projected unprecedented reform in scientific undertaking and presented clear analysis of science, reason (*'aql*), and revelation (*wahy*) with new perspective to develop and galvanize scientific spirit and its dynamic role in the Muslim world.

This essay has undertaken to highlight his position on science and the essence of reform agenda he pursued gearing towards creating religious consciousness and driving the force of modernity and progress, defending the supremacy of reason and rational, and assuring the triumphant of science and technology. Our role in this century is to uphold his ideas and aspiration for scientific reform and revival and significantly embark on Islamizing science and technology based on his scientific thinking and worldview. We must develop his aspiration to revitalize and reconcile religion and science, and construct greater effort to uncover the dynamic role of science and renew its spirit and reclaim the supremacy and powerful position of Islamic science in contemporary ummah.

Muhammad Abduh's Scientific Views in the Qur'an

Introduction

This chapter aims to analyze Shaykh Muhammad 'Abduh's scientific interpretation of the Qur'an as presented in his voluminous works such as *Tafsir Juz Amma* and *Tafsir al-Manar*. It will investigate the scientific methods he developed and dynamic perspectives he projected in analyzing Qur'anic text which provides the ground for rational and critical understanding of the text relating to the nature of bacteria, light, and some other pertinent issues in scientific debates. The chapter discerns key ideas and themes of scientific worldview that 'Abduh projected and principle methods he crafted in textual analysis which contribute to promulgate rational and analytical understanding of the text.

1. Science in the Qur'an

One of the most striking features of the Qur'an is its exhortation to scientific discovery which was alluded in many significant verses (about 750 verses) of Qur'an such as: "Does man think that We cannot [resurrect him and] bring his bones together again? Yea indeed, We are able to make whole his very finger-tips!" [75: 3-4], "It is Allah Who sends the winds which stir up clouds which He spreads about the sky however He wills. He forms them into dark clumps and you see the rain come pouring out from the middle of them." [30: 48], "Then We smote their ears many years in the Cave. Afterwards We raised them up again, that We might know which of the two parties would better calculate the while they had tarried." [18: 10], "Verily, in the creation of

the heavens and of the earth, and the succession of night and day, and in the ships that speed through the sea with what is useful to man, and in the waters which God sends down from the sky, giving life thereby to the earth after it had been lifeless, and causing all manner of living creatures to multiply thereon, and in the change in the winds, and the clouds that run their appointed courses between sky and earth, [in all this] there are messages indeed for people who use their reason.” [2: 164], “And He it is who has caused waters to come down from the sky; and by this means have We brought forth all living growth, and out of this have We brought forth verdure. Out of this do We bring forth close-growing grain; and out of the spathe of the palm tree, dates in thick clusters; and gardens of vines, and the olive tree, and the pomegranate, [all] so alike, and yet so different! Behold their fruit when it comes to fruition and ripens! Verily, in all this there are messages indeed for people who believe!” [6: 99], “It is God who has raised the heavens without any supports that you could see, and is established on the throne of His almightiness; and He [it is who] has made the sun and the moon subservient [to His laws], each running its course for a term set [by Him], He governs all that exists.” [13:2], “He created man from a clot of blood” [96: 2] “He who hath taught by the pen. Taught man what he knew not.” [96: 4-5], “In order that you may reason” [40:67], “Do they not reflect on their own selves?” [30:8], “We did not create the heavens and the earth and all that is between them save with the Truth.” [15: 85], “Did We not create you from a base fluid, then lodged it in a secure abode, for a known span? Thus We were able, to do this; so [how] excellent able ones We are!” [77: 20-24]. (Al-Suyuti, 2007: 713-4) “[those] who are endowed with insight...[and] are true to their bond with God” [13: 19-20], “God does not change men’s condition unless they change their inner selves” [13: 11], “He it is who produceth gardens. . . . Eat ye of the fruit thereof when it fruiteth” [6: 141], “They will not fight you (even) together, except in fortified townships, or from behind walls” [59:14], “Verily, all things have We created in proportion and measure (perfection)” [54: 49],

“Do they not travel through the land that they may have hearts with which to reason” [22: 46], “Blessed be He Who hath placed in the heaven mansions of the stars, and hath placed therein a great lamp and a moon giving light!” [25: 61], He hath created the heavens without supports that ye can see, and hath cast into the earth firm hills, so that it quake not with you; and He hath dispersed therein all kinds of beasts. And We send down water from the sky and We cause (plants) of every goodly kind to grow therein.” [31: 10], “Glory be to Him Who created all the sexual pairs, of that which the earth groweth, and of themselves, and of that which they know not!” [36:36], “Allah hath created every animal of water” [24: 45], “Say have ye thought if (all) your water were to disappear into the earth, who then could bring you gushing water?” [67: 30], “Do not the unbelievers see that the heavens and the earth were joined together (as one unit of creation) before We clove them asunder?” [21: 30], “He set on the (earth) mountains standing firm, high above it and bestowed blessings on the earth and measured therein its sustenance in four days” [41:10], “Then He turned to the sky and it had been (as) smoke” [41: 11], “He completed them as seven firmaments in two days” [41:12], “And We send “Have We not made the earth as a wide expanse, and the mountains as pegs?” [78: 6-7], “Now I do call to witness the Lord of the two Easts and the two Wests” [55: 17], “And the sun runneth on unto a resting place for him. That is the measuring of the Mighty, the Wise. And for the moon We have appointed mansions till she return like an old shriveled palm leaf. It is not for the sun to overtake the moon, nor doth the night outstrip the day. They float each in an orbit.” [36: 38-40], “And We send down from the skies water rich in blessings, and cause thereby gardens to grow, and fields of grain, and tall palm-trees with their thickly-clustered dates, as sustenance apportioned to men; and by [all] this We bring dead land to life: [and] even so will be [man’s] coming-forth from death.” [50: 9-11] (Muhammad Asad, 2003: 1019), “And lo! in the cattle there is a lesson for you. We give you to drink of that which is in their bellies, coming from the contents of intestines and the blood,

pure milk palatable to the drinkers.” [16: 66], “A day with Allah is as a thousand years of what ye reckon” [22: 47], “there are messages indeed for people who use their reason!” [13:4], “But if thou art amazed [at the marvels of God’s creation], amazing, too, is their saying, “What! After we have become dust, shall we indeed be [restored to life] in a new act of creation?” [13:5], “God knows what any female bears [in her womb], and by how much the wombs may fall short [in gestation], and by how much they may increase [the average period]: for with Him everything is [created] in accordance with its scope and purpose.” [13: 8], “He it is who displays before you the lightning, to give rise to [both] fear and hope, and calls heavy clouds into being; and the thunder extols His limitless glory and praises Him, and [so do] the angels, in awe of Him; and He [it is who] lets loose the thunderbolts and strikes with them whom He wills.” [13: 12-13], “While they encompass nothing of His knowledge save what He will” [2: 255], “And the *Jinn* did He create of smokeless fire.” [55: 17], “Verily We created man of potter’s clay of black mud altered” [15: 26], “Have, then, they [who deny the truth] never considered any of the things that God has created – [how] their shadows turn right and left, prostrating themselves before God and utterly submissive [to His will]?” [16: 48], “for We are closer to him than his neck-vein.” [50: 16], “From Whom is not hidden the weight of an atom in the heavens or on earth, nor is there anything less than that or greater, but is in the record perspicuous.” [34: 3]. Imam Ali (rad) when asked to clarify the meaning of atom said: “if we look inside the atom, any atom, we will see a sun in its core,” (Adel Elsaie, n.d.).

Another scientific ayat mentioned in *surah al-Ra’d*, verse 17, was explained in tafsir *al-Kashshaf*: “[Whenever] He sends down water from the sky, and [once-dry] river-beds are running high according to their measure, the stream carries scum on its surface; and, likewise, from that [metal] which they smelt in the fire in order to make ornaments or utensils, [there rises] scum.”

[13: 17]. According to Zamakhshari this indicates that “only some of the river-beds are streaming with water while others, not affected by this particular rainfall, remain dry.” (Muhammad Asad, 2003: 457)

Yusuf Ali also commented the following *ayat* of the Qur'an: “It is Allah who made your habitations homes of rest and quiet, for you; and made for you, out of the skins of animals, (tents for) dwellings, which ye find so light (and handy) when ye travel and when ye stop (in your travels), and out of their wool, and their soft fibres (between wool and hair), and their hair rich stuff and articles of convenience (to serve you) for a time” [16: 80], “It is Allah who made out of the things He created, some things to give you shade; of the hills he made some for your shelter; he made you garments to protect you from heat, and coats of mail to protect you from your (mutual) violence. Thus does He complete his favours on you, that ye may bow to His will (in Islam)” [16: 81]. In his great commentary Yusuf Ali said: “for example, trees, gardens, the roofs of houses; also from another point of view, the fact that the sun's rays at various times and various parts of the earth, come obliquely, thus causing shadows along with sunshine. In the hills there are caves and grottoes,” (Abdullah Yusuf Ali, 1992: 658).

Another scientific *ayat* which signify the essence of sciences includes: “And there are on earth [many] tracts of land close by one another [and yet widely differing from one another]; and [there are on it] vineyards, and fields of grain, and date-palms growing in clusters from one root or standing alone, [all] watered with the same water: and yet, some of them have We favoured above others by way of the food [which they provide for man and beast]. [13: 4] In his erudite commentary to this *ayat* Muhammad Asad said: “The term *zawj* denotes, according to the context, either “a pair” or “one of a pair”. Whenever the dual form *zawjan* is followed by the additional

numerical definition *ithnan* (“two”), it invariably signifies “a pair comprising both sexes.” Thus, the above phrase states that there are two sexes to every kind of plant: a statement fully in accord with botanical science. (Usually, the male and female organs of reproduction exist together in one and the same flower of a particular plant, e.g., cotton; alternatively, they are placed in separate flowers of one and the same plant, e.g., in most of the cucurbitaceae; and, in some rare cases, e.g., the date-palm, in entirely separate, uni-sexual plants of the same species.) (Muhammad Asad, 2003: 450)

The Qur’anic dimension of science covered many scientific topics on “natural forms as the signs of Allah” (Rodwell, 2010). The scientific discovery on the nature only confirm the profound connection and universal truth of Quranic revelation with the revealed scriptures of the people of the books, as confirmed by these verses: “[As for this revelation,] it could not possibly be a discourse invented [by man]: nay indeed, it is [a divine writ] confirming the truth of whatever there still remains [of earlier revelations], clearly spelling out everything, and [offering] guidance and grace unto people who will believe,” [12:111], and “Now this Qur’an could not possibly have been devised by anyone save God: nay indeed, it confirms the truth of whatever there still remains [of earlier revelations] and clearly spells out the revelation [which comes] - let there be no doubt about it - from the Sustainer of all the worlds.” [10:38], “Say verily, though mankind and the Jinn should assemble to produce the like of this Qur’an, they could not produce the like thereof though they were helpers one of another.” [17: 88], and as mentioned in hadith: “[...] The Book of Allah contains the narrations of nations that have come before you and the news of nations that will come after you as it is the ultimate judgment between you [...]. Whoever seeks guidance in other than it, Allah will send him astray. It is God’s firm Rope, the Wise Remembrance and the Straight Path [...]. Its wonders are endless”. (Al-Wahidi, 2008)

The title of Qur'anic surah also indicate the same magnitude and connection to science as clearly visible from the title of surah 13 'Thunder' (*al-Ra'd*) which "relates to the evidence of God's creative powers forthcoming from the observable manifestations of nature," (Muhammad Asad, 2003: 485), surah 6 'The Cattle' (*Al-An'am*), surah 16 'The Honey Bee' (*al-Nahl*), surah 29 'The Spider' (*al-Ankabut*), surah 57 'The Iron' (*Al-Hadid*), surah 68 'The Pen' (*Al-Qalam*), surah 72 'The (Al-Jinn)', surah 76 'Man' (*al-Insan*), surah 85 'The Great Constellation' (*al-Buruj*), surah 86 'The Night-Come' (*al-Tariq*), surah 90 'The Soil' (*al-Balad*), surah 91 'The Sun' (*al-Shams*), surah 92 'The Night' (*al-Layl*), surah 93 'Morning Light' (*al-Duha*), surah 95 'The Fig' (*Al-Tin*), surah 96 'Germ Cell' (*al-'Alaq*), surah 97 'The Night of Worth' (*al-Qadr*), surah 103 'The Declining Day' (*Al-'Asr*), surah 105 'The Elephant' (*al-Fil*) and surah 113 'The Dawn' or 'The Day Break' (*al-Falaq*). According to Mustansir Mir, scientific data in the Qur'an and scientific culture it produced has prove what is termed the Qur'an's *I'jaz ilmi* ("scientific inimitability")--that is, the wish to prove that the presence of verifiable scientific information in the Qur'an will establish the Qur'an as the Word of God, since such a book could have emanated only from a Divine source. He proclaims: "The Qur'an not only lays down the law or narrates historical anecdotes, but also inspires. It inspired the earlier generations of Islam with a vision and a drive, which led Muslims to establish a distinctive intellectual tradition. In founding that tradition, Muslims were also stimulated by their environment, which included the then dominant currents of thoughts and movements of ideas." (Mustansir Mir, 2012).

2. Major Works on Scientific Exegesis (*Tafsir al-'Ilm*)

In the mid-nineteenth century, many significant works have been produced by modern exegetes and scholars in scientific *tafsir* (*tafsir al-'ilm*) of the Qur'an. It was very influential in

the twentieth century with nuance attempt to reconcile Qur'anic teachings with scientific knowledge. Its precursor can be found in classical work of al-Ghazali (d. 505/1111) as early proponent of scientific exegesis, in his description of the Qur'an as being the oceans from which all sciences emerged. (Abdullah Saeed, 2005). Muslim reformists thought in the eighteenth and nineteenth century promulgated by Jamal al-Din al-Afghani, Shaykh Muhammad Abduh, Sayyid Ahmad Khan and Muhammad Iqbal advocating modern Islamic aspiration has been instrumental in the rise of scientific tafsir. In modern time, scientific exegesis has dramatically flourished by the significant effort of Shaykh Tantawi Jawhari with his magnificent *Tafsir al-Jawahir*, Shaykh Muhammad Farid Wajdi with *Al-Mushaf al-Mufassar*, Ibn Badis in *Tafsir al-Badis*, and Maurice Bucaille who has produce an influential work attempting to provide scientific reading of Qur'anic verses which have some relationship with science. Notwithstanding this, some Muslim thinkers have strongly criticized it for "ignoring the open-ended nature of scientific discovery and as misreading the Qur'an" (Abdullah Saeed, 2008). Despite such challenge, scientific exegesis has continued to become one of the most important and influential exegesis of the Quran in contemporary time.

3. Abduh's Scientific Works on the Qur'an

'Abduh has produced many scientific works on tafsir such as *Tafsir al-Manar*, *Tafsir Juz 'Amma*, *Tafsir al-Fatihah*, and *Tafsir Surat al-Asr*. He developed scientific ideas within the construct of modern Sunni tafsir, which began in the nineteenth century as a reaction to the challenges of Western technology, science and education. His approach was rational and apologetic; and its primary aim was to present Islam to Muslims and defend it against the western secular and missionary onslaughts (Mahmoud Ayoub, 1984). *Tafsir al-Manar* was compiled and completed by Rashid Rida from series of lectures and articles by Muhammad Abduh. It was held

“to be authoritative by both progressive and conservative Egyptian Muslim theologians” (Jane Dammen McAuliffe, 1991). In line with Abduh’s goal to making the Qur’an accessible to those who had not studied substantively of religious science, his tafsir steered away from elaborate philological and syntactical analyses, which he considered to be unnecessary obfuscation of the text. Abduh also abstain from attempting to explain the obscure (*mubham*) terms of the text. The exegete, in Abduh’s view, ‘has no right, is in fact forbidden, to identify anything that is left unidentified by the Quran itself’ (Jansen, 1980: 20). For this reason Abduh does not spare much discussion on esoteric meaning of the text(*ta’wil*). He grounded his exegesis with scientific ideals and discovery supported by explicit *ayat* of the Qur’an and authentic hadith.

4. Abduh’s Methods of Exegesis

In his analysis of Abduh’s methodology of Quran exegesis, Abdullah Mahmud Shihatah devotes a chapter to elaborate’s Abduh’s hermeneutical tendency and judgment. The example taken from Abduh’s interpretation include such matters as the unidentified town (*qaryah*) mentioned in surah al-Baqarah 2:58, the plague from heaven (*rijzan min al-sama’*) [2:59], food that Prophet Zachariah found in Mary’s chamber 3:37. He also discussed Abduh’s exegetical restraint in dealing with eschatological issues (such as *al-sirat*, *al-mizan*, *al-jannah*, *al-nar*, *al-qada’ wa’l-qadar*) (Shihatah, 1984). ‘Abduh frequently refers to classical tafsir literature with special focus to time and space dimension, occasion of revelation *asbab al-nuzul*, emphasizing on the literal meaning of the text and their context, drive out the *israiliyyat* (Bible-derived and extrabiblical tradition) in his tafsir. In his methods, “purified of foreign lore,” he trt to rediscover original meaning of the Qur’an, that shaped the generation of righteous forefathers (*al-salaf al-salih*) and recapture their spiritual morality for diffusion in modern society. (Barbara Freyer,34)

He grouped the verses of a surah into meaningful units and sought to establish connections among the surahs themselves, which indicates, that the ideas of context and integrity enters as a hermeneutical principle and is expressed in terms of the literary excellence (*i'jaz*) of the Qur'an. The tafsir was written in the traditional style as an interlinear (verse by verse) Quranic exegesis, and had cross-references to other Quranic sections dealing with the same topic. Its innovation and modern character range from format to substance.

Some important features of his work is the reform ideas he promulgated, suggesting the need to understand the Qur'an from scientific worldview which required reinterpretation of Quranic ideas (Abdullah Saeed 2008:209), such as miracles, prophethood, faith and reason, knowledge, philosophy and science. The reform idea demanded a reappraisal of the intellectuals heritage of Muslims and required giving up the practice of blind imitation or *taqlid*.

Abduh's decisive views on the Qur'an found resonance in the words of the twelfth century Muslim philosopher Ibn Rushd, in his philosophical treatise *The Decisive Treatise Determining the Nature of the Connection between Religion and Philosophy* (*Fasl al-Maqal fi Ma Bayn al Hikmah wa'l Shari'ah min al-Ittisal*), arguing that the Qur'an and philosophical reasoning do not contradict each other, as both are parts to 'the Truth,' and suggesting for [Muslim] lawyer to infer on allegorical interpretation and meaning by reasoning from scripture: "Now since this religion [Islam] is true and summons to the study which leads to the knowledge of the Truth, we the Muslim community know definitively that demonstrative study [that is, philosophy] does not lead to [conclusions] conflicting with what Scripture has given us, for truth does not oppose truth but accords with it and bears witness to it." (Ibn Rushd, 1961).

Abduh also emphasized on the need to relate the phenomena of science to history in interpreting the Qur'an. He deplored his fellow Muslim's neglect of the study of history. He maintained that it should be the guide for dynamic nations, enabling them to recover political power and their proper place in the world. Not only does history have a rightful place in Quranic exegesis, it is one of the most useful instruments for a truly modern Qur'anic exegesis. (Massimo Campanini, 2011)

5. Impact of his Scientific Ideas

Abduh's scientific ideas had great ramifications on the contextualist approach to the Qur'an, such as Fazlur Rahman arguing that *ijtihad* (independent thinking and reasoning) should play a key role in contemporary Muslim life (Fazlur Rahman 214), and Algerian scholar Muhammad Arkoun (b. 1928), the Egyptian Nasr Hamid Abu Zayd (b. 1943), American scholars Amina Wadud and Khalid Abou El Fadl (b. 1963) and Muhammad Shahrur. Particular interest is Shahrur's work *al-Kitab wa'l-Qur'an: Qira'ah Mu'asirah* [The Book and the Qur'an] which directly challenge the authority of traditional Qur'anic exegesis, and his sustained advocacy for the need to reinterpret ideas of religious authority and tradition, and to apply Islamic precepts to contemporary society.

Shahrur writes that Qur'anic interpretation has been shackles for centuries by the conventions of medieval jurists, who had mastered the craft of chaining authoritative commentaries to prior authoritative ones and of creating genealogies, or chains (*silsilas*) of traditions of authoritative learning. He seeks to replace this long tradition with human reason. (Muhammad shahrur, 2009: viii). The contextualist methodologies have been adopted by Muslim thinkers in the late twentieth and early twenty first century, allowing for greater scope to interpret

the Qur'an and question the rulings of earlier scholars, and significantly engaging with the Qur'an in new ways and "attempted to relate the Qur'an to contemporary concerns and needs by reference to various Quranic ideas and principles that are relevant to the modern period" (Abdullah Saeed, 2005: 214).

Such unprecedented methodologies came with Abduh's new rationale to separate the *ibadat* (laws on religious duties) and *mu'amalat* (laws on social transactions) in the Qur'an and shariah (Yvonne Yazbeck Haddad, John L- Esposito). Muhammad Abduh in his introduction to *Tafsir al-Manar* has argued and emphasized on the important of understanding Qur'anic guidance and concentrating on its literal and direct meaning and relevant to various issues facing the Muslim world. He has made radical breakthrough on understanding Qur'anic command and injunctions, arguing that while *ibadat* lies beyond interpretative change, the *mu'amalat* require interpretation and adaptation by Muslims in light of practical needs of the their age. Another modernist characteristic of his views is his desire to express both his exegesis and also his Qur'anic centric blueprint for moral reform in language aimed at wider reading public (Yvonne Yazbeck Haddad, 1988).

Abduh emphasized on avoiding the use of earlier exegesis, that contain too much jargon that made Quranic text seem obscure. According to him, accepting the concept of revelation did not clashed with the use of reason, and can help to revive Islam's rationalist's philosophical tradition and renewing morality by returning to pristine example and ideals of first Muslim generation. From his scriptural interpretation he condemned deviations and additions and underscored the primacy of the Quran and the sunna, and founding the ground to reinvestigate classical texts of Islam, which should undergone reinterpretation on many topics closely

connected to modern period such as polygamy, war and peace, science, slavery, justice and morality.

6. Abduh's Scientific Interpretation of the Qur'an

The way of Abduh's scientific interpretation was based on rational and pragmatic ideas that he scientifically developed. His commentary substantively reflects profound *ijtihad* and marked the primary important of reason in his discourse for he believed that: "in Islam there is no such thing as religious authority", (either) the Caliphs or the Qadis or the muftis or the shaykh al-Azhar" (Asghar Ali, 2005). Abduh's scientific discussion on the *ayat* was profoundly based on Quranic spirit and authentic hadith as illustrated in the following points:

From his unique point of view, 'Abduh claimed that *jinn* is not really supernatural being, but ones hidden from eyes (which is ideally the meaning of the term '*jinn*'). He relates it to modern science discovery of the microbes. In his commentary on surah al-Baqarah, verse 276: "They who swallow down usury shall rise only as he arises whom Satan infected by his touch," he relates the passages on the one who practice usury as epileptics to modern theory of microbes which are to be understood as the *Qur'anic* jinn: "The 'ulama' says that the *jinn* are living bodies which cannot be seen. The '*Manar*' has said more than once that it is permissible to say that minute living bodies which today have been made known by the microscope and are called microbes, may possibly be a species of the *Jinn*. It has been proven that the microbes are the cause of most diseases...however, we Muslims are fortunately under no necessity of disputing with science or the finding of medicine regarding the correction of a few traditional interpretations. The Quran itself is too elevated in character to be in opposition to science." (C.C. Adams, 2010).

Abduh's interpretation of social law in the Qur'an led to some innovative Qur'an interpretation and fatwas (legal opinions) on women and gender issues, particularly in polygamy. He argued that while polygamy was a sound practice among the righteous early believers, it had developed into a corrupt practice of unbridled lust, without justice or equity, in his own time. The following commentary by him, will clearly illustrate his views on polygamy: "Polygamy, although permitted in the Qur'an, is a concession to necessary social conditions which was given with the greatest reluctance, in as much as it is accompanied by the provision that a man may take more than one wife only when he is able to take equal care of all of them and give to each her rights with impartiality and justice. The *Shari'a* has, in requirement of circumstances permitted the legality of four contemporaneous marriages with great reluctance. Since the proviso immediately following – if you fear that you cannot be equitable and just with all then (marry) only one -, is given so much stress that the permission to contract four contemporaneous marriages becomes practically ineffective . (Abduh, 1906).

He unequivocally condemned the practice of polygamy which has been grossly misinterpreted and flame discord and unrest in society. He call for concerted effort of ulama to provide clear provision on such affairs, and says: "a nation that practices polygamy cannot be educated. Religion was revealed for the benefit of its people; if one of its provisions begin to harm rather than benefit the community...the application of that provision has to be changed according to the change needs of the group." (Muhammad Imara, n.d.).

Abduh's rational interpretation of the Qur'an can be conceived from his commentary on surah *al-Fil* which radically departed from classical exegesis. In verses 1-5 Allah says: (1) Hast

thou not seen how they Lord dealt with the masters of the elephant? (2) Did He not turn their plots awry? (3) He sent upon them dense clouds of birds. (4) That pelted them with inscribed stones. (5) Thus made He them like greenery eaten down. (Martin Lings, 2007). Abduh refers the phrase '*tayran ababil*' (swarms of flying things) to certain germs and bacteria who showered pebbles over the Abyssinian army which caused the epidemic and it was the first time that smallpox was introduced in Arabia (Abduh, 1985: 157-8). Commenting the *ayat* on the defeat of Abraha before reaching Kaabah he says: "It is possible to conceive that this bird was a species of mosquito or fly which carries the germs of some diseases, and that these stones were of dried poisonous mud which the wind had blown and which had stuck to the legs of these insects. If these came into contact with a body they would enter its pores and cause sores that eventually lead to the decay and decomposition of that body. A multitude of these weak birds might be considered as the mightiest soldiers of God in His destroying whatever people He wills. And this small lifeform, nowadays called the microbe, is the same thing. The groups and communities of these [microbes] are do numerous that only their Creator can count them. But God's ability to defeat tyrants does not depend on birds being on vast mountain tops, nor on their being a kind of griffin, nor to their being a unique species, nor to knowing the number of stones and why they have such an effect, for God has armies of everything." (Aziz al-Azmeh, 1996: 119). Such a reasonable explanation on the phenomena is stronger proof and evidence of God's sign to mankind than showing manifest miracle.

In his commentary on surah al-Nisa', verse 1, which says: *O Mankind! Be conscious of your Sustainer, who has created you out of one living entity (nafs), and out of it (minha) created its mate (zawjaha), and out of the two spread abroad a multitude of men and women. And remain conscious of God, in whose name you demand [your rights] from one another, and of these ties of*

kinship. Verily, God is ever watchful of you! [4:1] Abduh interprets the verse to be the generality of mankind and refuting the theory of Darwin on human evolution. He differs from many classical commentators in attributing the term *nafs* as “human being” and gives preference to the meaning “humankind”, inasmuch as this term stresses the common origin and brotherhood of the human race (Farouk Musa, 2011). This was further reverberated by Muhammad Asad, that the term “*nafs*”, in this context is interpreted as “a living entity”, following the same reasoning as Abduh.

Abduh brought strong argument showing various groupings of people scattered over the face of the earth was descended from particular root and origin: “Among the indications of the context that Adam is not intended, is the general and indefinite way in which the descendants are referred to: ‘many men and women.’ Further, since the address is general to all peoples, many of whom know nothing about Adam and Eve, how could such a particular reference be intended? The origin of the human race from Adam is a history derived from the Hebrew, whereas the Chinese, for example, have a different tradition. Science and investigation into the history of mankind have discredited the Hebrew tradition. And we Muslims are not obliged to believe the account of the Jews, even though it be traced back to Moses; for we have no confidence that it is from the *Tawrah* (Book of Moses) and that it has remained as Moses gave it...” God has left here the matter of the soul from which he created men indefinite, so let us leave it in his indefiniteness. (Abduh, 1906) (Livingston, 1995).

In the Qur’anic account of Adam’s expulsion from the Garden of Eve, and consequence Adam’s earthly toil (20:117) Abduh interpreted the meaning in the context of equality and parallel right of man and woman. Abduh advocate the fundamental principle of equality and

justice and the same right and responsibility of man and woman. in his commentary on chapter 3 verse 4 which read: "So their Lord accepted their prayer, (saying): I will not suffer the work of any worker among you to be lost whether male or female, the one of you being from the other." Abduh argued that escape from punishment and reward consists only in performing the work in proper manner and with sincerity. It shows, he insists, that men and women are equal before God in the matter of reward, when they are equal in their work. He further explained: "Anyone who knows all nations before Islam gave preference to man, making women merely his chattel and a plaything, how some religions gave precedence to the man simply because he is a man and she a woman, and how some people consider the woman as incapable of religious responsibilities and as possessing no immortal soul, anyone who knows all this, can appreciate its true value and Islamic reform in the belief of the nations and their treatment of women. Moreover, even now European laws and religious traditions continue to place man above woman. To be sure, the Muslims have been at fault in the education and training of women and acquainting them their rights; and we acknowledge that we have failed to follow the guidance of our religion. (Asghar Ali Engineer, 2005: 127).

Abduh's commentary on surah al-Baqarah, 18-19, assert his mastery of science as he mentions the unique and systemic creation of heaven, analyzing Qur'anic passage "that positively excite scientific interest, which mentions a storm cloud out of heaven, big with darkness, thunder and lightning, as he writes: The truth about lightning and thunder and the storm cloud and the reasons for their occurrence, is not among the subjects investigated by the Qur'an, because this belongs to the science of nature and the happening of the atmosphere, which it is possible for men to know by their own exertions and does not depend upon inspiration." (Livingston, 1995).

His commentary on surah 2: 276 reflect his profound and strong analysis of great dimension of Islamic medicine: ‘They who swallow down usury shall arise (in the Resurrection) only as he ariseth whom Satan hath infected by his touch.’ Commenting on the *ayat* Abduh wrote: “The common interpretation’, he says, ‘refers this to the resurrection, at which time, says Tradition, those given to usury will arise as epileptics. But the connection says nothing to indicate a reference to the Resurrection; whereas this interpretation depends upon Tradition, and is like most other traditional interpretations in being invented to explain a difficult passage which the interpreters did not understand. But the suggestion of Ibn ‘Atiyah is nearer the truth: they shall arise, that is, in their ordinary movements, as the one whom satan had infected, that is, like an epileptic.” (C.C. Adams, 2010). His scientific ideas had furnished the ground for Islamic medicine to flourish and pave the way for the flowering of scientific exegesis and commentary of the Qur’an.

In his commentary of *Sura al-‘Asr*, Abduh extensively discussed scientific and theological understanding of the Qur’an pertaining to *kasb* (men’s own voluntary acts of choice) *ikhtiyar* (free will), and actions initiated from human effort, in which nothing in God’s omniscience prevents man from choosing to make the effort. In this regard, he fundamentally says: “Consciousness and the senses testify that certain acts of a man are his own...the Qur’an also speaks of ‘what ye do,’ and ‘what your hands have acquired’. All the requirements of the divine law are based on the principle that a man is responsible for what he does. There would be no justice in holding a man responsible for something not within his power nor his will...at the same time, there is no question that all things originate with God and are attributable to Him. This is practically an instinctive recognition...his power is also unquestionable. If he wished, he could rob us of the ability and will which he has given us” (C.C. Adams, 2010, Kenneth Cragg, 1966).

His discussion on kalam has been instrumental in the promulgation of scientific ideas with regard to critical thought in Islam and empowering its ideological base and dimension.

7. Conclusion

The discussion on Abduh's scientific views on the Qur'an has resulted in many pertinent points to be reflected. It can be summarized that the scientific views he espoused had great bearing on scientific endeavors currently operated in the Muslim world. In this brief discussion, we have clearly seen persistent effort of Shaykh Muhammad Abduh to reconcile reason and revelation and harmonize science and religion, constantly promulgating his reform and scientific ideas and aspiration as stressed in his theological and apologetic writings. Abduh's scientific interpretation of the Qur'an has been profoundly constructed to furnish the ground for rational and scientific undertaking to flourish. Such undertaking of genuine scientific interpretation has become the catalyst for broader dimension of scientific analysis and enterprise in modern tafsir and has been instrumental in driving critical investigation on crucial aspects of science and technology for greater benefit of Muslim and humanity at large.

Conclusion

This work has conclusively revealed the contribution of Shaykh Muhammad Abduh to science and technology. It has endeavoured to highlight his remarkable ideas on science and idealized his method to Islamize science and technology based on his rational and scientific approach. This study has developed substantive analysis on Muhammad Abduh's scientific thought and his conceptual framework for religious struggle and renewal. It has extensively analyzed his contribution to modernity, science and technology and the essential ideas he proposed towards scientific development and technological progress in the Muslim world. In our discussion on Muhammad Abduh's contribution to modernity, we have presented his monumental contribution to Islamic modernism and religious reform in Egypt. The modern ideas he espoused were based on the principle of freedom to articulate his vision on modern world. His contribution was clearly highlighted in the field of educational reform, interplay of culture and ideas, scientific renaissance, gender equality, women empowerment, sophisticated enhancement of technology and the making of Islamic revival. Abduh's contribution to modernity was phenomenal for he had successfully integrated and reconciled western and Islamic ideals and tradition.

In the presentation of Abduh's scientific philosophy in chapter four, we have summarized Abduh's philosophical ideas on science and technology, and discussed the root and foundation of Islamic science and technology. In this regard, Abduh is the leading advocate and defender of reason in Islam. For him, reason and revelation does not come into conflict, since both religion and science are the twin sources of Islam, and that they are active in different areas. Science has close relation with reason and freedom, and their harmonious relation was crucial and essential to

understand the text. Abduh reformist ideas is projected based on certain fundamental principle; that is the supremacy of 'aql (intellect), the struggle to dismantle the obsolete tradition of *taqlid* (blind imitation), and to renew *ijtihad* (independent reasoning).

In chapter five, the finding from our discussion on Abduh's scientific views in the Qur'an resulted in the new understanding of many scientific ideals established in the Qur'an, including the nature of *jinn* (invisible beings), bacteria, light, and other pertinent objects mentioned in his tafsir. The *Manar* commentary (*Tafsir al-Manar*), has provided rational and scientific understanding of the text which should be highlighted and accentuated as it essentially relates to modern time.

The scientific views of Shaykh Muhammad Abduh and his proposals for scientific renaissance had been comprehensively discussed and idealized in this work. His scientific theory is essential for Muslim ummah's continuous aspiration for reform and renewal and it is timely for us to idealize and transform his scientific and technological ideals into tangible practice and to reconstruct and enlighten it based on the scientific framework crafted by Shaykh Muhammad Abduh.

Future Recommendations

Based on the finding of this work, it is crucial to advance and recommend comprehensive proposals for future research and investigations:

1. To highlight the role and contribution of Shaykh Muhammad Abduh in driving scientific development and technological advance in the Muslim world.
2. To undertake reform and renewal in Islamic society and to Islamize western science based on the methodology and philosophical construct founded by Muhammad Abduh in al-Azhar.
3. To modernize current methodology and pedagogy of learning based on the ideas crafted by Shaykh Muhammad Abduh in Egypt.
4. To enhance scientific and technological discovery in rural areas and offering scientific curriculum at religious school.
5. To reconstruct and rebuild the dynamic practice of science and technology in Islamic world
6. To uplift and empower the condition of Ummah based on innovative approach and practical method employed by Muhammad Abduh.
7. To improve the ways Islamic school are operated, and to implement the theory outlined by Muhammad Abduh in his struggle to Islamize western subjects.
8. To reorganize and reorient the approach of Muslim ummah towards science and technology and to reframe their worldview and worldview.
9. To facilitate the development of science and technology in the Muslim world by providing concrete support and practical training to young cadre.

- 10.To excel and standardized scientific and technological practice in the Muslim world and produce powerful machine and gadget based on conclusive ideas promulgated by Muhammad Abduh.
- 11.To implement Abduh's scientific ideals and his futuristic views for comprehensive progress and development in the Muslim world and to embark on religious and scientific reform.
- 12.To establish and develop modern school and institution which represent Abduh's manifest project of Islamization and glocalization.
- 13.To translate and publish Abduh's scientific works such *Tafsir al-Manar* and *al-Islam wa al-Nasraniyya ma'a al-'Ilm wa al-Madaniyyah*.
- 14.To translate his ideas into practice and to expand his inspiring thoughts on science, technology, kalam and tafsir.

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Glossary

Al-Manar - the Light house

Al-Ustadh – the teacher

Ababil – in adjectival sense, mean “separate groups”, ‘*Tayr*’ and ‘*Ababil*’, both denote ‘flying creatures’ or ‘birds in a flock’

Abrahah – Christian commander from Yemen, who leads the attack on Kaabah with his host, the companions of the elephant

Anthropology–study of man based on comparative analysis of and subsequent generalization about his physical and behavioral characteristics.

‘*Aql*’ - intellect

Astronomy – a natural science that deals with the study of celestial objects (such as stars, planets, comets, nebulae, star clusters and galaxies)

Ayah – a verse of the Qur’an

Bacteria – microbes of plague

Bid’ah - innovation

Cosmos– universe,

Da’wah – Islamic propagation, invitation to Islam

Fiqh – Islamic law and jurisprudence

Hadith (plural: *ahadith*) – A report concerning the words and deeds of Prophet Muhammad (saw), or saying (s) attributed to Prophet Muhammad (saw)

Ijtihad – independent judgment, in interpreting Islamic law

‘*Ilm*’ – religious knowledge. Those possessing ‘*ilm*’ are known as ‘*ulama*’. In modern Arabic, ‘*ilm*’ (plural: ‘*ulum*’) is often used in the sense of “science (s)” or “knowledge”

Imam - leader or head of the community; the person leading the ritual prayers

Iman – belief, faith

Islah - reform

Islam – peace and submission to God

Islamic modernism – religious reform, Muslim ideological response to the cultural challenges which attempts to reconcile Islamic faith with modern values regarding nationalism, democracy, civil rights, rationality, equality and progress

Jihad – “struggle,” including armed struggle against unbelievers

Jinn – invisible beings, or spiritual forces, not normally accessible to our sense perception, since these invisible manifestations are not of corporeal nature. The term *jinn* is also used in the Qur'an to denote those elemental forces of nature - imperceptible spirits, including human nature – which are “concealed from our senses” inasmuch as they manifest themselves to us only in their effects but not in their intrinsic reality.

Kalam – speech, or word, '*ilm al-kalam* refers to Islamic philosophical discipline of seeking theological knowledge through debate and argument

Kuttab – traditional Islamic school, following classical framework of religious instruction

Madrasah – literally school. In this essays it refers to school of thought

Modernity – post-traditional, post-medieval historical period

Modernism – modern thought, character, or practice

Mufasssir – commentator of the Qur'an

Mujaddid – renewer of the faith

Reason – the mental powers concerned with forming conclusions, judgments, or inferences

Reform – *tajdid*, religious movement for renewal and reform, generally aim for political liberalization and economic transparency

Samawat – singular *sama'*, heavens, the visible skies, (as well as, occasionally, the clouds); or the cosmic space in which the stars, the solar systems (including the earth) and the galaxies pursue their course

Science – systematic enterprise that builds and organizes knowledge in the form of testable explanations and predictions about the universe

Shari'ah – the body of laws that governs Muslim personal and social life

Sufi – mystic, the root word is traced to *suf* for “wool”, referring to the simple cloaks the early Muslim ascetics wore.

Sufism - mystical tradition in Islam; inner or esoteric dimension of Islam

Sunnah – the tradition of the Prophet's (saw) practice

Sunni – branch of Islam referred to as “*Ahl al-Sunnah wa’l Jama’ah*” (people of the *sunan* and the community), claiming to follow the Prophetic (saw) sunnah

Surah – a chapter in the Qur’an

Symbiosis – the close, interdependent relationship of two unlike organisms

Tafsir – commentary of the *Qur’an*

Taqlid – blind imitation to previous customs and behaviours of forefathers without valid authority

Technology – the making, usage, and knowledge of tools, machines, techniques, crafts, systems or method of organizations

Typhus – diseases caused by *Rickettsia* bacteria

Ulama - Islamic scholars

Ummah– Muslim community

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